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Marine Casualty Investigations

Enquêtes sur les accidents maritimes

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FISHING VESSELS

Summaries of Reports of Investigations
into Marine Casualties and Accidents
Aboard Ships

Issue No. 6 December 1988

Summaries of Fishing Vessel Marine Casualties and Accidents

This publication summarizes the Reports of Investigation into marine casualties and/or marine accidents involving fishing vessels which were investigated by the Marine Casualty Investigations Division of Transport Canada and is published three times a year. There is another publication covering commercial vessels and other craft.

Note:

1. A glossary of terms and abbreviations used can be found at the end of this publication.

2. Unless stated otherwise, all times mentioned in this publication are local times.

3. Unless stated otherwise, all Regulations referred to in this publication are made pursuant to the Canada Shipping Act.

The full report of the summaries contained herein may be obtained by writing to:

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Their contents may be deficient and misleading if used in any other process and are not to be used or admitted in evidence in any legal proceedings, either civil or criminal, arising out of any casualty described therein. The statements, opinions and findings in the reports and summaries are those of the Marine Casualty Investigations Division only and do not constitute admissions made by or on behalf of Her Majesty the Queen in right of Canada.

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"J.B. NICKERSON"

Explosion on board with loss of one life, Shelburne, N.S., September 12, 1987.

Summary

In September 1987, the 652 gross ton, Canadian steel stern dragger "J.B. NICKERSON" was on the marine railway at Shelburne, N.S., for regulatory inspection and scheduled repairs. Only 2 persons, the chief engineer and a deck-hand remained on board as watchman. In preparation for sand-blasting, the vessel's hull openings and ventilation had been closed off, restricting natural ventilation throughout the vessel.

During the morning of September 12, shipyard workers removed a seized 89 mm valve which the chief engineer intended to overhaul. At about 0915, he was seen proceeding below-deck with the valve to the process deck area where the vessel's workshop was located. Some 15 minutes later, an explosion, originating in the engineer's workshop, occurred aboard the vessel and, black smoke was seen emanating from the vessel but there was no indication of a flame. Assistance was immediately summoned from the local volunteer fire department and an ambulance was called. The shipyard personnel working in the engine-room then proceeded ashore and within minutes everybody on board was accounted for with the exception of the chief engineer. A shipyard worker and ambulance attendant donned a breathing apparatus and after a brief search, located the chief engineer's body some 6.4 m forward of the workshop entrance on the process deck; the grossly distorted steel workshop door, which had been forced through the doorway opening was partially laying over the body. When the fireman arrived on-scene, they removed the body of the chief engineer. The RCMP immediately secured the vessel and after various responsible agencies had conducted their investigations, took possession of the gas welding equipment.

Shortly after the accident, a cursory inspection of the gas welding equipment revealed that the acetylene cylinder valve was fully open and the oxygen cylinder valve closed, and that there was no discharge of any gas even when the lever controlling the supply of oxygen to the cutting torch was depressed.

A later examination and testing of the equipment by an independent repair workshop revealed that the acetylene regulator was not fitted with a non-return valve to prevent flashbacks in the event of fire within the hose. Instead, a regulator non-return check valve had been installed between

the hose and the acetylene torch inlet and thus had been in effect fitted backwards. This would block the flow of acetylene to the torch and the acetylene cylinder valve when open would allow pressure to accumulate in the acetylene hose. If the oxygen cylinder valve was then opened in an attempt to use the torch, the oxygen at a higher operating pressure would further pressurize the acetylene hose and regulator. This could have forced the highly explosive mixture to somehow escape into the workshop possibly through a leaking gland.

As the acetylene cylinder valve was open for an undetermined period of time, it is also possible that a small leak of acetylene and oxygen had existed for some time. Acetylene, with a lower explosive limit of 2.8% concentration in air could soon create a volatile gas within the workshop volume of about 38 m^3.

The source of ignition can only be surmised and anything from a lighted cigarette to a friction spark may have provided sufficient heat to cause the explosion.

Unfortunately, when a leaking inlet gland was discovered in the oxygen pressure regulator, further examination or testing of the hose or acetylene pressure regulator was not carried out and the equipment was returned to the owners. Representatives of Transport Canada, Marine Casualty Investigations, or Canadian Coast Guard, Ship Safety branch were not present during the examination and testing, having been advised after the event due to an oversight.

An autopsy report indicated that the victim sustained 20% third degree burns over the extremities, with the scalp and body hair burnt away.

Extensive damage was sustained by the vessel and the cost of repairs is estimated at $400,000.

Findings

The cause of the explosion on board the "J.B. NICKERSON" which resulted in the death of the chief engineer cannot be absolutely identified but of the possibilities it appears to have been a result of the following:

- a non-return valve was incorrectly installed on the acetylene inlet fitting of the cutting torch;

- the acetylene cylinder valve was left fully open for an undetermined period;

- an unsuccessful attempt may have been made to use the oxy-acetylene torch;

- during such an unsuccessful attempt the higher pressure oxygen created a back pressure within the acetylene hose and regulator;

- an oxygen enriched acetylene gas leak was created within the workshop; or a small leak of acetylene and oxygen may have accumulated over some time;

- natural ventilation throughout the vessel was restricted;

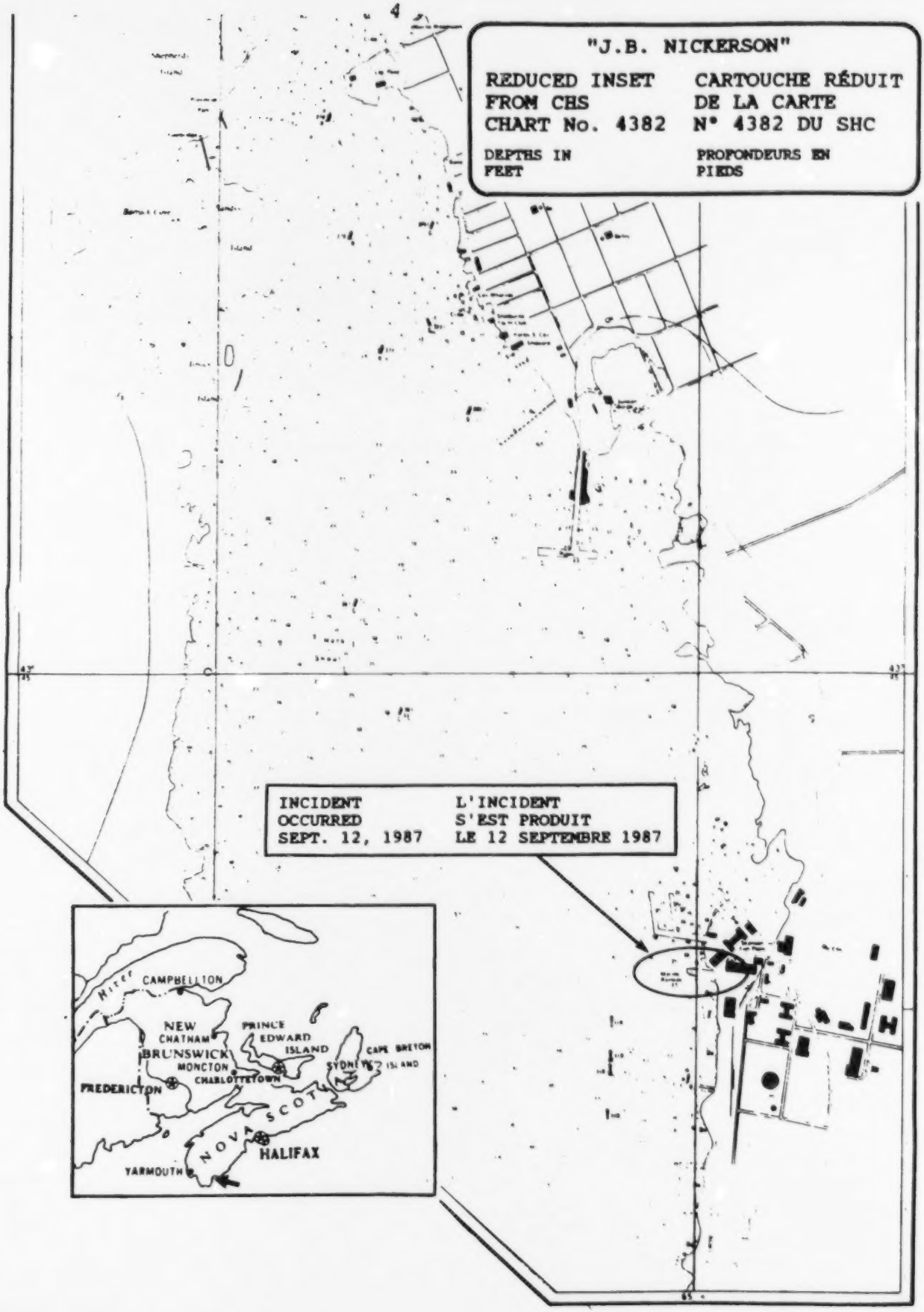
- the gas leak mixed with the surrounding atmosphere in the relatively confined area; and

- the highly explosive gas mixture was ignited by an unidentified source, several of which were readily available, while the chief engineer was inside the workshop.

Other Findings

The examination syllabus for a Certificate of Competency as a Marine Engineer does not include gas burning/-welding techniques.

Had other involved agencies been in attendance, the subsequent examination of the gas welding equipment may have been more detailed.


"J.B. NICKERSON"
REDUCED INSET FROM CHS CHART No. 4382
CARTOUCHE RÉDUIT DE LA CARTE N° 4382 DU SHC
DEPTHS IN FEET
PROFONDEURS EN PIEDS
INCIDENT OCCURRED SEPT. 12, 1987
L'INCIDENT S'EST PRODUIT LE 12 SEPTEMBRE 1987
CAMPBELLTON
NEW BRUNSWICK
CHATHAM
MONCTON
PRINCE EDWARD ISLAND
CHARLOTTETOWN
SYDNEY
CAPE BRETON ISLAND
FREDERICTON
NOVA SCOTIA
HALIFAX
YARMOUTH

"J.B. NICKERSON"

"J.B. NICKERSON" on the marine railway at Shelburne, N.S.

Le "J.B. NICKERSON" sur le slip de carénage à Shelburne, N.-É.

Grossly distorted steel workshop door.

Déformation aïgue de la porte d'acier.

"PROSPECT POINT"

Diving accident with loss of one life - Seaforth Channel, B.C., November 14, 1987.

Summary

The Vancouver-registered, 70 gross ton seiner "PROSPECT POINT" was being utilized as a mothership in a joint fishing venture for harvesting of sea cucumbers. The vessel, with 9 POB comprising 5 crew members and 4 divers, anchored some 8 miles from Shearwater, B.C. off the east side of Dearth Island in Seaforth Channel on November 14, 1987. The diving operation commenced at about 1030, utilizing 2 skiffs as diving tenders and with two divers and a skiff tender assigned to each.

All divers had some form of sport Scuba Diving Certificate but none was formally trained for commercial diving. The divers had varying degree of experience in the harvesting of sea cucumbers with the victim having negligible experience. As each diver was an entrepreneur responsible unto himself, no one was assigned to or assumed overall responsibility for planning and execution of dive operation. Thus, good diving practices to ensure safety of the divers including establishment of effective communication, wearing proper gear, proper weighting and adjustment of weight belts, and above all not diving with less than 500 p.s.i. of air remaining in the air cylinders, were not observed.

Three of the divers wore dry suits but the victim wore a wet suit which necessitated his wearing a CO_2 cartridge-activated buoyancy compensator/back pack to assist him when surfacing; however, no CO_2 cartridge was carried. The victim wore swimming fins on his feet while two other divers wore rubber boots and an additional weight belt around their waist to enable them to walk/run on the bottom; a faster and less exhausting method of gathering sea cucumbers.

After having a hot meal and replenishing the air in the air bottles, diving resumed at 1415 with the victim now wearing combat boots over his wet suit bootees in lieu of the fins and utilizing an additional weight belt, giving him a total of 27.2 kg of weight around his waist.

At about 1515 the victim surfaced and climbed into the skiff in readiness to return to the "PROSPECT POINT" for a full air cylinder when he was informed by the skiff tender that one product bag had apparently become snagged on the bottom. The skiff was then manoeuvred into position and the victim made one last dive to free it. Shortly afterwards, the skiff tender noticed that air bubbles were no longer breaking on the surface and his dive partner was alerted and

brought to the scene. The victim was found lying face down on the sea bottom in approximately 10.7 m of water. He was brought to the surface and as he showed no vital signs, continuous cardiopulmonary resuscitation (CPR) and artificial respiration (AR) were administered and the skiff returned to the nearby "PROSPECT POINT".

Meanwhile, the skipper of "PROSPECT POINT" notified authorities and a rescue operation was initiated. The victim was transported to a hospital in Bella Bella and shortly after his arrival, he was pronounced dead. The cause of death was determined to be asphyxia as a consequence of an empty diving tank.

Findings

On the afternoon of November 14, 1987, a commercial SCUBA diver, harvesting sea cucumbers in the vicinity of Seaforth Channel, B.C., made a dive in approximately 10.7 m of water, to free a snagged product bag and was then recovered unconscious, from the sea bottom; he was rushed to hospital in Bella Bella where he was pronounced dead shortly after arrival. Medical cause of death was later determined to be accidental death by asphyxiation due to an empty air cylinder.

It would appear that the following factors contributed to the casualty:

- no one in the dive team accepted overall responsibility for the planning and execution of dive operations nor did anyone ensure that all divers were formally trained: each diver was self-employed and responsible unto himself;

- the diving operation was not conducted under the supervision of a diving supervisor nor was there a set of safe diving instructions;

- an efficient means of communication was not established, resulting in Gerald Boucher being some 30 metres away from his dive partner at the time of the accident;

- Gerald Boucher was not fully equipped for the diving operation, in that he did not have a CO_2 cartridge with which to inflate his buoyancy compensator nor was he wearing swimming fins, carrying a sheath knife or wearing an underwater watch; and

- lack of experience on the part of the deceased resulted in his disregard for safe diving procedures in that he was overweighted, did not adjust his weight belt to ensure a quick release, and made a dive with less than 3,447 kPa (500 p.s.i.) remaining in his air cylinder although he had just previously surfaced because his air supply was low.

Other Findings

None of the divers taking part in the harvesting venture were medically examined for the task.

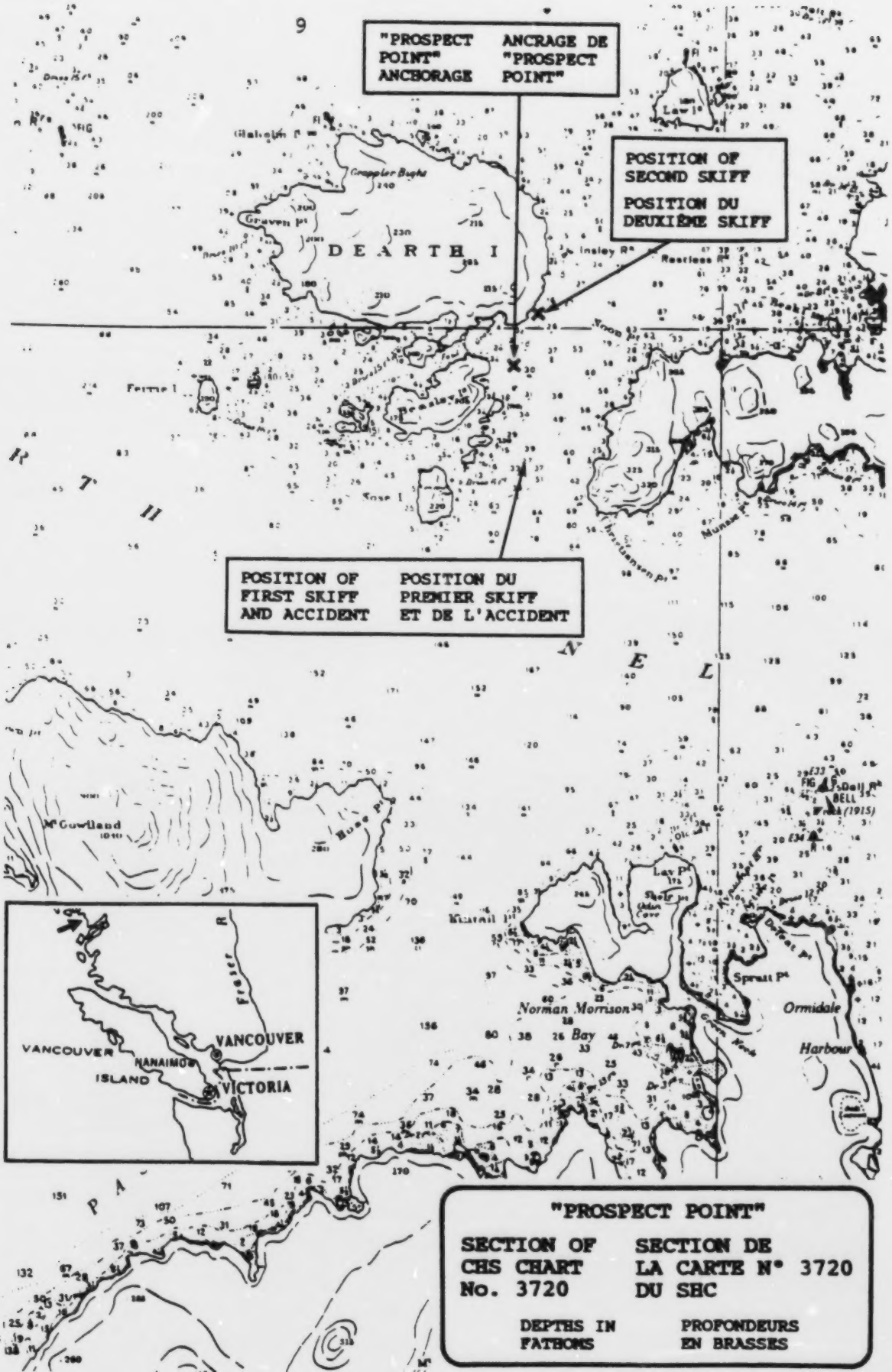
None of the divers kept a log book.

None of the divers or ship's crew interviewed were aware of the Industrial Health and Safety Regulations nor the Industrial First-Aid Regulations.

None of the ship's crew or divers were trained in survival first aid.

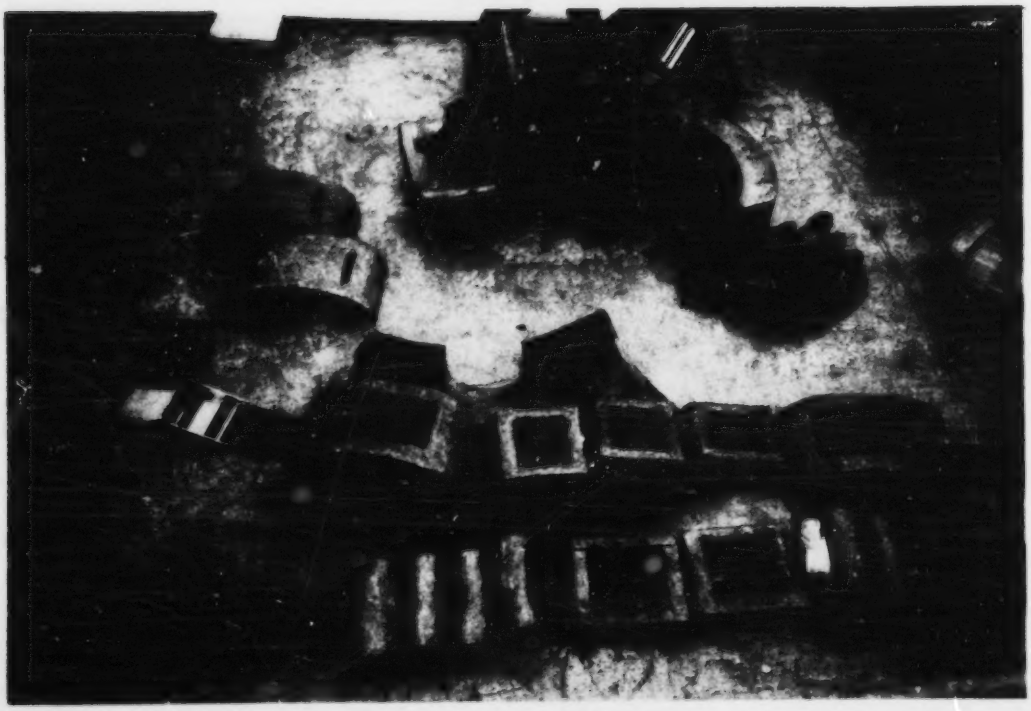
No written procedures were prepared for the transporting of injured workers.

The Seafood Harvesting industry is federally regulated for fishing quotas and fishing vessel safety, but, in the absence of specific Federal Commercial Diving Regulations applicable to this type of activity in British Columbia, the B.C. Workers Compensation Board has asserted regulatory authority within the confines of the B.C. Workers Compensation Act.


"PROSPECT POINT" ANCHORAGE
ANCRAGE DE "PROSPECT POINT"
POSITION OF SECOND SKIFF
POSITION DU DEUXIÈME SKIFF
POSITION OF FIRST SKIFF AND ACCIDENT
POSITION DU PREMIER SKIFF ET DE L'ACCIDENT
DEARTH I
Grappler Bight
Graven Pt
Insley R
Restless R
Ferrie I
Knox I
Hartmanson Pt
Munroe R
McCausland
Bute P
Kinnaird
Lay Pt
Spratt Pt
Norman Morrison Bay
Ormidale Harbour
Fraser R
VANCOUVER
VANCOUVER ISLAND
NANAIMO
VICTORIA
"PROSPECT POINT"
SECTION OF CHS CHART No. 3720
SECTION DE LA CARTE N° 3720 DU SHC
DEPTHS IN FATHOMS
PROFONDEURS EN BRASSES

Buoyancy compensator worn at time of accident showing reserve valve that had been blocked off.

Ci-contre, veste compensatrice de flottabilité portée au moment de l'accident. On aperçoit aussi la soupape de réserve qui a été obstruée.



Typical weight belts as worn by divers.
Ceintures de plomb typiques portées par les plongeurs.

"NUCLEUS"

Grounding on Swede Pt., Pitt Island, B.C., November 15, 1987.

Summary

The 87 gross ton Canadian stern trawler "NUCLEUS" is 19.1 m long and is propelled by a 360 b.h.p. diesel engine. She was in possession of a valid Steamship Inspection Certificate. Included in her navigation equipment and in operation at the time of the casualty were 2 radars on the 3 mile range and a VHF. Her radio station licence had expired and the skipper was not licensed to operate the radio station. The "NUCLEUS", with a crew of four, departed Prince Rupert, B.C., at 0030, November 15, 1987 with the skipper at the helm. When the vessel was abeam Genn Island at approximately 0315, a deck-hand took over the watch after being briefed by the skipper. When she was south of Kennedy Island a course alteration was made to steer the vessel through the centre of Ogden Channel.

As the "NUCLEUS" transited Ogden Channel weather conditions deteriorated causing interference on the radar Plan Position Indicator (P.P.I.) to the point where land could not be distinguished. In an attempt to reduce the clutter, the deck-hand changed range scales several times and adjusted the radar controls. He reduced the clutter but in doing so eliminated the signals received from the land closest to the vessel. The deck-hand then manoeuvred the vessel into what appeared to be the mid-channel. At 0400, whilst proceeding at a full speed of 9 knots, the "NUCLEUS" grounded on Swede Pt., in approximate position 53°53.4'N, 130°15.3'W.

The skipper and crew were awakened by the impact. They came onto the bridge to discover the deck-hand in a dazed condition and the engine running full ahead. The skipper immediately reduced engine speed and checked the radar which still indicated no targets in the immediate vicinity of the vessel. The deck lights were switched on and trees and rocks could be seen to the sides and ahead of the vessel. He then ordered the bilges checked for water and they were reported to be dry.

The vessel was then backed off the shore and following a more thorough inspection, water was discovered entering the vessel in the forepeak area. The pumps were activated but the suction in the forepeak area was airlocked. At 0413 CCRS Prince Rupert was informed of the incident and portable pumps were requested. Meanwhile the crew were deployed in bailing out the accommodation area and shortly thereafter the

engineer/deck-hand succeeded in clearing the airlock. The pumps were then activated and the ingress of water controlled.

At 0546, with the arrival on-scene of the rescue vessel, pumps were placed aboard the "NUCLEUS" and the vessel pumped out. The "NUCLEUS" then proceeded to Prince Rupert where following inspection temporary repairs were effected and an SI7 certificate valid for 30 days issued by the Ship Safety Branch of the Canadian Coast Guard. This permitted the vessel to proceed to Vancouver for permanent repairs.

The vessel sustained damage to her stem with a small hole below the waterline on the starboard side. The estimated cost of repairs was $15,000.

Findings

While southbound in Ogden Channel, B.C., in restricted visibility at a full service speed of 9 knots, the Canadian fishing vessel "NUCLEUS" grounded on Swede Pt., Pitt Island, B.C. on November 15, 1987.

It would appear that the following factors contributed to the grounding:

- the skipper was not informed immediately on the onset of reduced visibility;

- the deck-hand on watch maladjusted the radar due to lack of knowledge and obliterated all immediate radar echoes;

- the radar was not effectively used in either maintaining a proper look-out or in establishing if risk of collision existed as required by Rule 5 and Rule 7 of the Collision Regulations;

- with the loss of position referencing afforded by the radar, the vessel's speed was neither reduced nor was she stopped until a proper assessment of the situation could be made as required by Rule 8 of the Collision Regulations;

- the vessel did not proceed at a safe speed as required by Rule 6 and Rule 19 of the Collision Regulations in that adequate consideration was not given to near-zero visibility and the loss of radar echoes;

- the vessel's position was neither plotted on a chart

nor recorded anywhere;

- the magnetic compass heading was not compared to the course the vessel should have steered by referencing the chart; and

- the alteration of course was made from a position not positively identified on the chart.

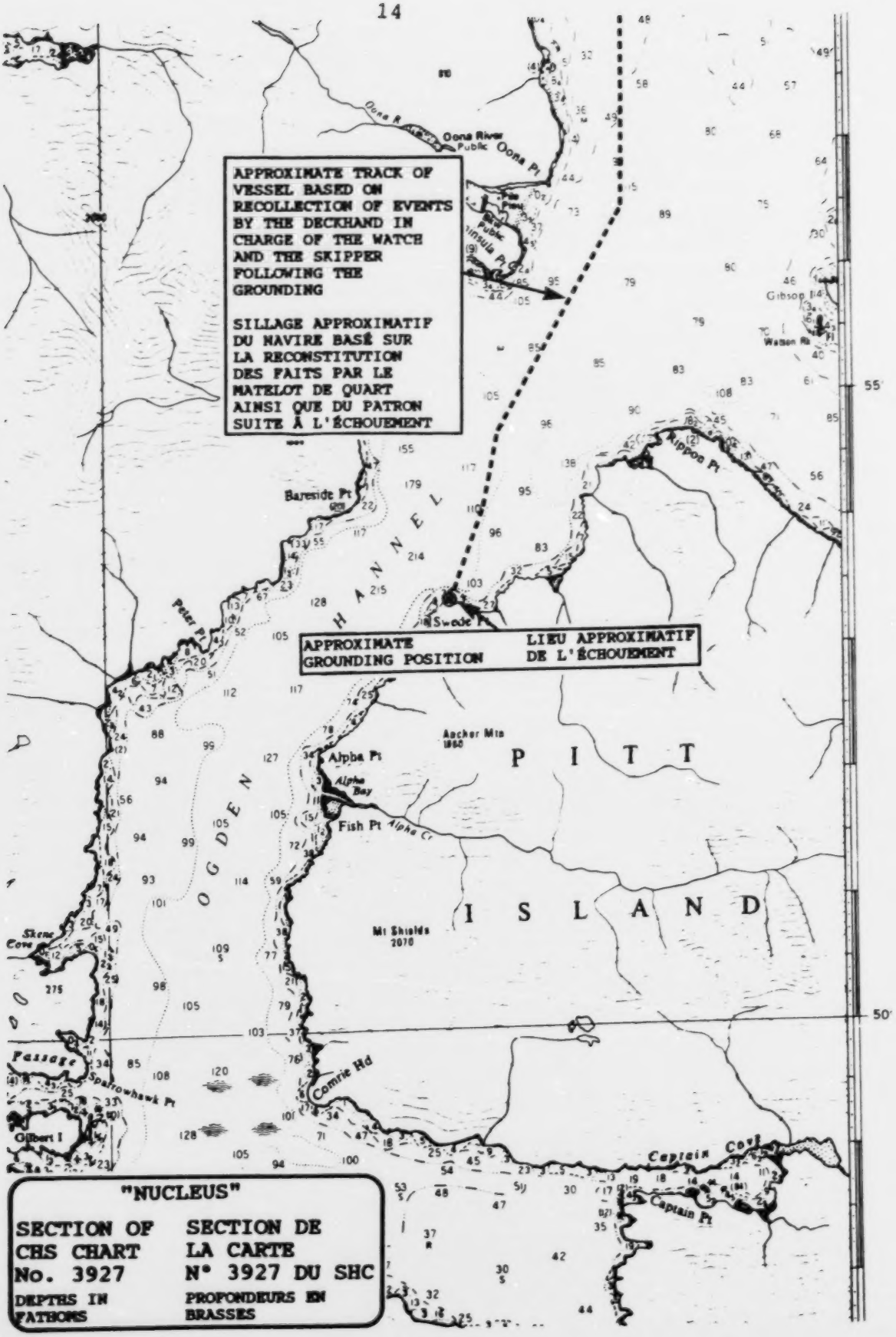
Other Findings

The crew member on watch had no formal navigation or radar training.

The charts aboard were out of date and uncorrected.

The forepeak bilge suction did not initially work because of an air lock.

The radio station aboard the "NUCLEUS" was not licensed nor was the operator aboard the vessel in possession of a Restricted Radiotelephone Operator's Certificate (Maritime) as required by the General Radio Regulations, Part II made pursuant to the Radio Act.



"NUCLEUS"

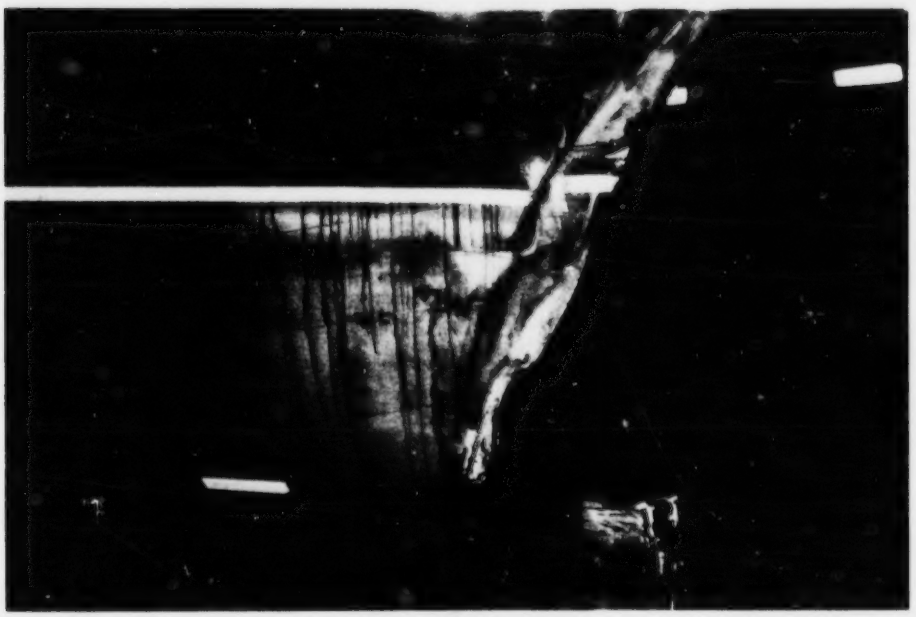
SECTION OF CHS CHART No. 3927	SECTION DE LA CARTE N° 3927 DU SHC
DEPTHS IN FATHOMS	PROFONDEURS EN BRASSES

Navigation Equipment Layout

Disposition de l'équipement de navigation

Port side of wheel-house. Furuno Radar

Côté bâbord de la timonerie. Radar Furuno



F/V "NUCLEUS" damage to starboard side.

B.P. "NUCLEUS" endommagé du côté tribord.

F.V. "DENEBOLA"/BARGE "N.L. 1204"

Collision in First Narrows, Vancouver Harbour, B.C., November 24, 1987.

Summary

Tug "BETTY COULTER" and Barge "N.L. 1204"

Whilst engaged in restoration and reinforcement work on the Ambleside Beach located about 1 mile west of the First Narrows (Lions Gate Bridge), four barges, two empty and two loaded, were moored to the buoys off-shore. On November 24, 1987, local westerly gale-force winds caused two empty barges and one loaded barge to part their moorings and drift onto the beach. Tasked to retrieve the barges, the 141 gross ton tug "BETTY COULTER" departed North Vancouver, with a crew of 3 and arrived on-scene around 2000.

She first attempted to retrieve a loaded drifting barge "N.L. 1204". Despite great difficulty caused by extremely heavy ground swell and seas pounding both vessels, a deck-hand, wearing a PFD, managed to jump onto the barge and secure both ends of the towing bridle but only to the port forward bollard. Placing of portable navigation lights on the barge was considered too hazardous, it being deemed prudent to wait until the tow reached sheltered waters further east. The tug then paid out some 40 m of towline and cautiously pulled the barge away from the beach.

The master was alone on the bridge, steering and conning the tug, while the engineer was tending to the towing gear, tow lights and floodlights and the deck-hand remained on the barge. At 2010, the "BETTY COULTER" advised VTS on VHF R/T channel 12 that she was departing Ambleside Beach towing a barge by one corner and proceeding towards First Narrows at a very slow speed. This emergency towing arrangement would not give the tug good directional control over the barge but this was neither indicated to VTS nor subsequently to the "DENEBOLA". At 2012, the "BETTY COULTER" contacted the "DENEBOLA" on VHF R/T and intimated that she was towing a barge and requested a green-to-green manoeuvre to which the "DENEBOLA" agreed. Just before the collision, the "BETTY COULTER" switched on her towing lights and trained her floodlights to illuminate the barge. At 2016, the starboard forward corner of the barge sustained minor damage when it came in contact with the starboard shipside of the "DENEBOLA".

F/V "DENEBOLA"

A B.C. pilot boarded the 2653 gross ton, Polish freezer trawler "DENEBOLA" on November 24, at Main Street Pier,

Vancouver Harbour. Once clear of her berth, she reported to VTS and was advised that there was no inbound traffic.

At 2004, when off Burnaby Shoal, she reportedly steered a course of 305°(T) for the centre of Lions Gate Bridge; her speed being some 8 knots. In the wheel-house were the pilot, the master, the OOW, the quartermaster and a look-out. The vessel's two radar were operating, however, as the vessel approached the First Narrows the radar screens were affected by sea clutter and numerous false echoes generated by the proximity of land and other structures. The radars were only briefly monitored by the pilot and the ship's officers as the visibility was 8 miles.

Approaching the bridge, the "DENEBOLA" altered course to port to 285° (T), heading just north of the "QB" Buoy, thus placing the "BETTY COULTER" fine on the starboard bow showing her green light. When the "BETTY COULTER" was some 45° to starboard and some 50 to 70 m distant, the crew of the "DENEBOLA" became aware of the towline and an unlit barge some 100 m ahead, across her bows. 'Hard-a-port', was ordered and the vessel responded immediately. Counter-helm was then ordered and the starboard bow cleared the starboard corner of the barge which then grazed the starboard midship section of the "DENEBOLA" before coming clear (see sketch). The time was 2016, only some 5 minutes since the first report of the "BETTY COULTER" to the VTS.

VTS was informed and the "DENEBOLA" returned to inner anchorage where an inspection revealed extensive damage to her shell plating, necessitating repairs, estimated to cost $100,000.

Findings

On November 24, 1987, in darkness and clear visibility, the barge "N.L.1204", being towed through the First Narrows to Vancouver's inner harbour by the tug "BETTY COULTER", came in contact with the outbound Polish fish processing trawler "DENEBOLA", causing considerable damage to the starboard side plating of the "DENEBOLA" and minor damage to the barge.

It would appear that the following factors contributed to the casualty:

- initially, the moorings on three barges in English Bay parted under adverse weather conditions, requiring emergency salvage operations; and

- both the "BETTY COULTER" and the "DENEBOLA" had only some 5 minutes to assess the unusual circumstances of the situation.

"BETTY COULTER"

- due to the weather conditions, succeeded in securing both ends of the bridle but only to the port bollard on the salvaged barge;

- due to the weather conditions, was unable to complete the hazardous task of placing the required navigation lights on the salvaged barge;

- was operating short-handed in an emergency situation as the deck-hand was aboard the barge;

- did not advise VTS, or any approaching traffic that her tow was unlit; and

- gave visual indication that she was towing by switching on her towing lights and floodlighting the barge just before to the collision.

"DENEBOLA"

- while monitoring channel 12, VHF, did not request more information when she became aware that an approaching tug was towing a salvaged barge by one corner;

- did not monitor her radar effectively and thus identify the tug and tow at an earlier stage;

- became aware that the tug was towing an unlit barge only when the tug illuminated the barge with a floodlight and put on her towing lights just before the collision.

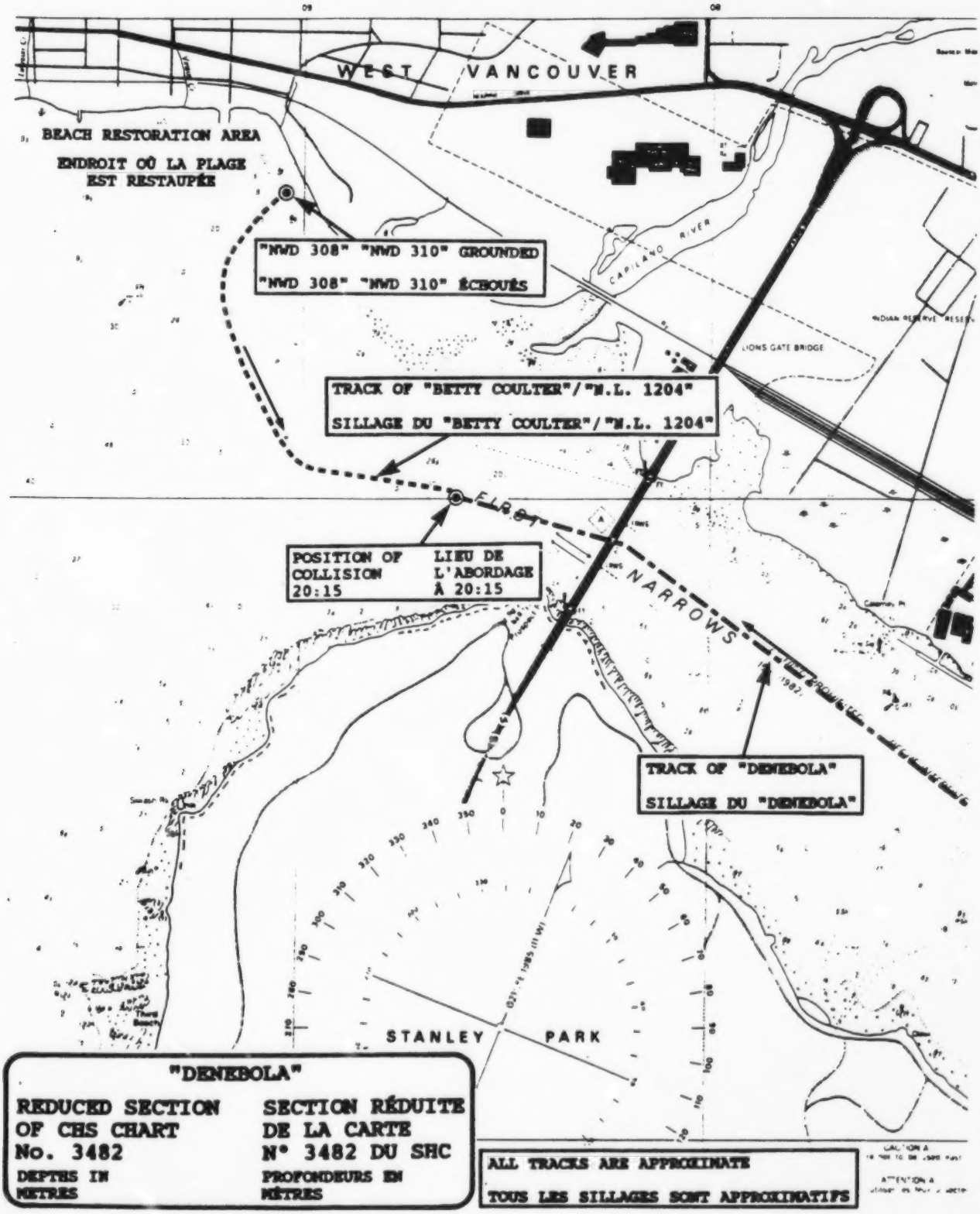
"VTS"

- did not ensure that the outbound "DENEBOLA" was fully aware that the inbound tug was towing a barge in an unorthodox manner under difficult circumstances.

Other Findings

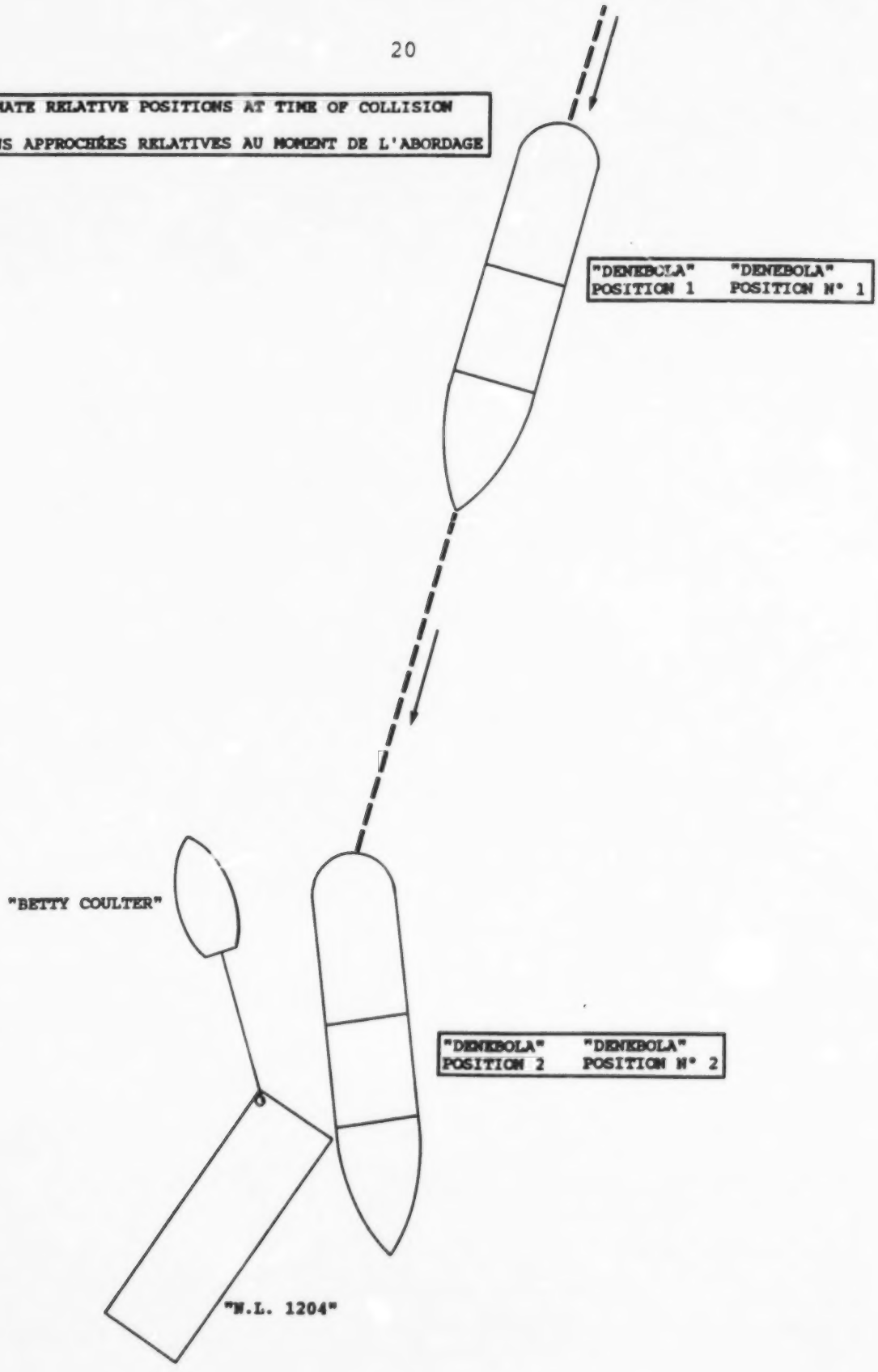
There was no VTS radar video tape of this potentially dangerous occurrence.

The "BETTY COULTER" performed a successful salvage operation under hazardous conditions.

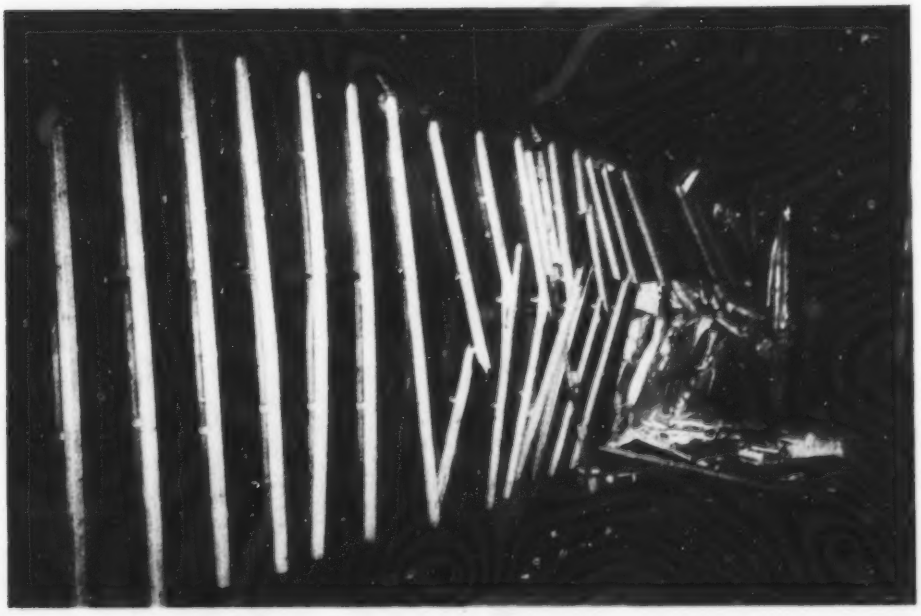

WEST VANCOUVER
BEACH RESTORATION AREA
ENDROIT OÙ LA PLAGE EST RESTAUPÉE
"NWD 308" "NWD 310" GROUNDED
"NWD 308" "NWD 310" ÉCHOUÉS
CAPILANO RIVER
LIONS GATE BRIDGE
TRACK OF "BETTY COULTER"/"N.L. 1204"
SILLAGE DU "BETTY COULTER"/"N.L. 1204"
POSITION OF COLLISION 20:15
LIEU DE L'ABORDAGE À 20:15
NARROWS
TRACK OF "DENEBOLA"
SILLAGE DU "DENEBOLA"
STANLEY PARK
"DENEBOLA"
REDUCED SECTION OF CHS CHART No. 3482
DEPTHS IN METRES
SECTION RÉDUITE DE LA CARTE N° 3482 DU SHC
PROFONDEURS EN MÈTRES
ALL TRACKS ARE APPROXIMATE
TOUS LES SILLAGES SONT APPROXIMATIFS

APPROXIMATE RELATIVE POSITIONS AT TIME OF COLLISION

POSITIONS APPROCHÉES RELATIVES AU MOMENT DE L'ABORDAGE

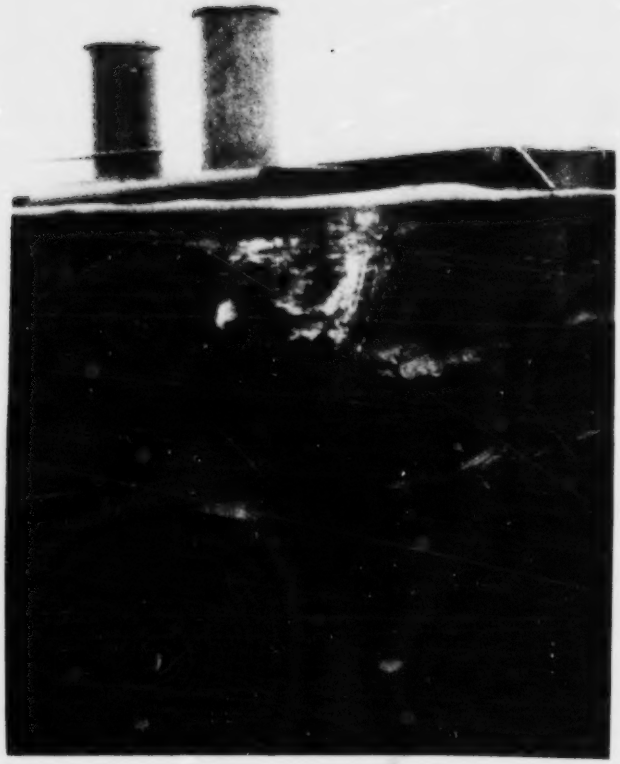


"DENEBOLA" - damaged starboard side.
"DENEBOLA" - côté tribord endommagé.



View inside the hold.
Vue de la cale à l'intérieur.

"BETTY COULTER"



"N.L. 1204" damaged starboard forward corner.
"N.L. 1204" coin tribord avant endommagé.

Barge "N.L. 1204".
Chaland "N.L. 1204".

Towline secured on this bollard only.
Câble de remorque attaché à ce bollard seulement.

"ATLANTIC ELIZABETH"

Loss overboard of a deck-hand on the Grand Banks of Newfoundland, December 6 1987.

Summary

The 661 gross-tons, 41.4 m long, deep-sea stern trawler "ATLANTIC ELIZABETH" departed Marystown, Nfld. on December 2, 1987, with a complement of 14, bound for the Grand Banks of Newfoundland. The deck-hands were divided into rotating 8-hour shifts of 3 men each which overlapped to meet the fishing operational needs for 6 persons to be on deck during the hauling and shooting of the gear.

At 0630, December 6, with the deck well lit by flood lights and the vessel stern-to the wind proceeding at one knot, Roger Hyde and 2 deck-hands were stationed on the vessel's port quarter to take in the port trawl door first. The port trawl door was hove up by the main warp to the side of the vessel, the port winch brake then applied and the port drum gear disengaged. One deck-hand connected the horizontal safety chain to the door and then held the sweep line with the slip link; the vertical safety chain was not used. Meanwhile, Mr. Hyde, assisted by the other deck-hand, disconnected the pennant wire from the door and was holding the pennant wire with a G-hook attached. Suddenly the warp slipped causing the door to drop by some 2 m before the horizontal safety chain, now in a vertical position, became taut. This sudden jerk resulted in Mr. Hyde, who was wearing a PFD, to fall overboard before he had time to react to the slippage; also, the possibility of his clothing becoming caught by the gear cannot be ruled out. Reportedly, the vessel did not experience any unusual movements at the time of casualty in the prevailing wind and sea conditions.

A lifebuoy, with a line attached, was immediately thrown towards Mr. Hyde but he made no attempt to retrieve it. The crew then started shouting and managed to alert the victim. As the vessel drifted away in darkness, the net with a catch of some 2268 kg was quickly retrieved. The vessel was then brought about and with the aid of the searchlight and the reflection from the retro-reflective tape of the PFD, the victim was relocated within 20 minutes. This time the victim managed to hold onto a second lifebuoy that had been thrown to him but he was unable to put it over his head and, thus under his arms. Then the victim's head fell under the water and the chief mate, wearing an immersion suit, entered the water. The chief mate was able to move Mr. Hyde's face clear of the water and secured a rope under the victim's arms; in the process his own legs became entangled in the slack rope. After untangling himself, the chief mate signalled for the

victim to be hauled out of the water. Meanwhile, with the vessel rolling, the line attached to the chief mate's suit became fouled on the hull of the vessel and pulled him underwater several times. The chief mate then grabbed the Jacob's ladder and as he commenced climbing, his tangled safety line parted. Assisted by the deck-hands he was brought on deck, weak and exhausted. In the meantime the crew were hauling Mr. Hyde up when the rope together with the PFD slipped off his body and the victim, who was a non-swimmer, disappeared beneath the surface. An extensive search ensued but Mr. Hyde's body was not found.

Findings

In the early morning of December 6, 1987, during the hours of darkness, the crew of the Canadian stern trawler "ATLANTIC ELIZABETH" was engaged in hauling the trawl net and securing the trawl door, when the pennant wire held by Mr. Hyde experienced a sudden jerk causing him to fall overboard and subsequently he lost his life. It would appear that the following factors contributed to his fall overboard:

- the sudden slippage of the port trawl main warp cable drum, due probably to wet brake linings and/or insufficient brake pressure;

- the slippage occurred very quickly;

- the port drum was held by the brake and the winch was disengaged before the crew had connected the sweep line to the pennant wire;

- the second (overhead) safety chain on the door was not employed; and

- the work performed by the crew in that area is considered both essential and dangerous.

Following his fall overboard, Mr. Hyde lost his life due to the following contributing factors:

- the cold seawater temperature of +3°C severely limited the victim's survival time;

- the victim's time in the water induced hypothermia and associated weakness;

- as the victim was being hauled aboard, the retrieval line slipped off, pulling with it the victim's floater vest; and

- the victim was a non-swimmer.

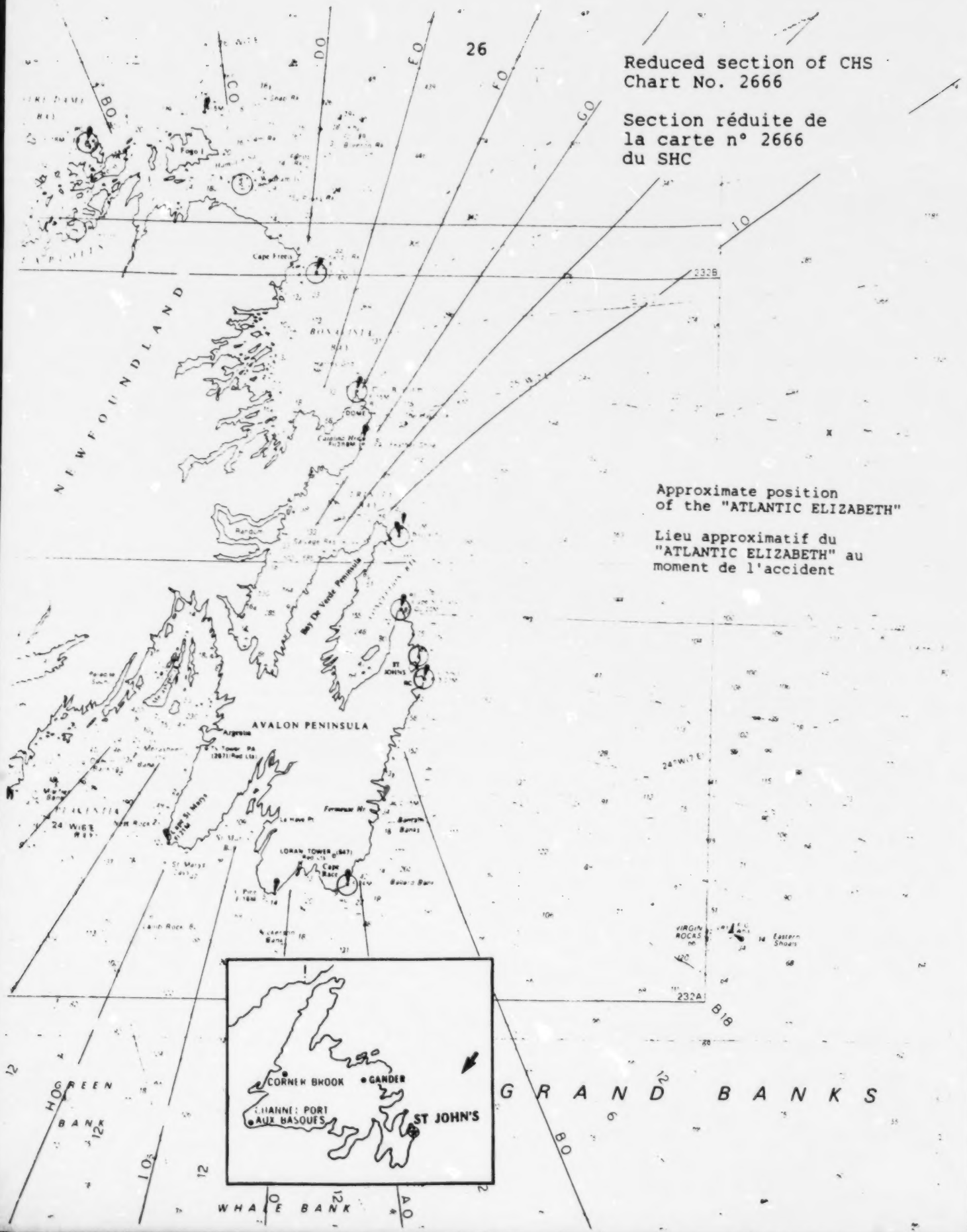
Other Findings

The vessel retrieved her gear and found the man in the water, under adverse conditions, in under 20 minutes; a fine performance.

The chief mate's effort at attempting rescue by going in the water at great personal risk, is commendable.

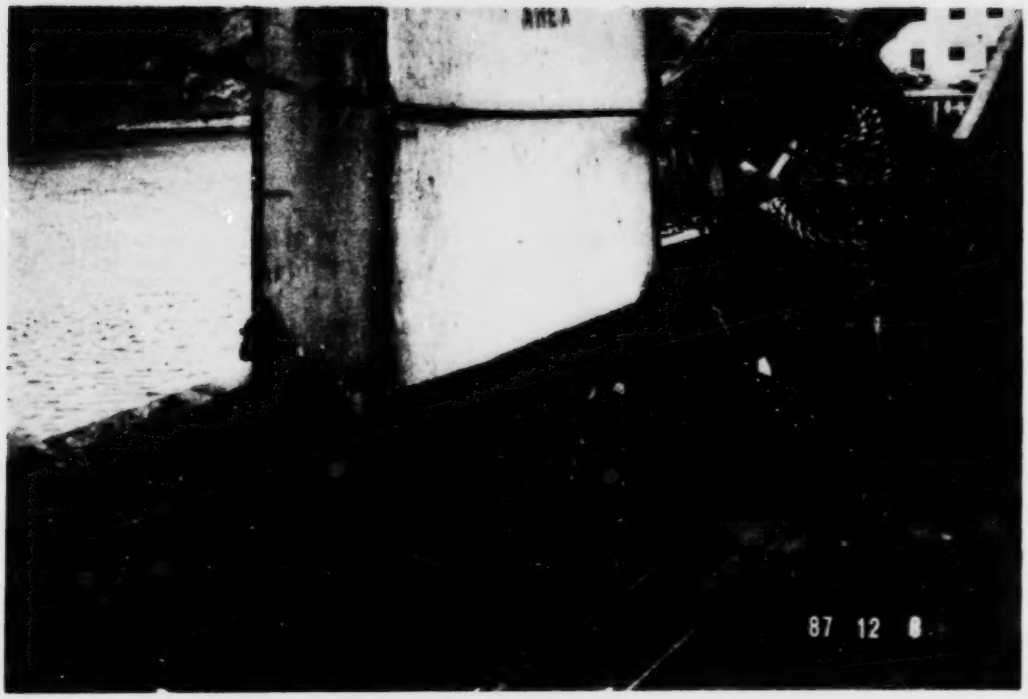
The vessel did not use a lighted lifebuoy to help mark the individual in the water.

The vessel carried no motorized boat of a special design to assist in such a rescue, nor is one required by regulations.


Reduced section of CHS Chart No. 2666
Section réduite de la carte n° 2666 du SHC
Approximate position of the "ATLANTIC ELIZABETH"
Lieu approximatif du "ATLANTIC ELIZABETH" au moment de l'accident
NEWFOUNDLAND
AVALON PENINSULA
Bay De Verde Peninsula
Cape Race
Cape St Mary's
Virgin Rocks
Eastern Shoals
232A
232B
GREEN BANK
WHALE BANK
GRAND BANKS
CORNER BROOK
GANDER
CHANNEL PORT AUX BASQUES
ST JOHN'S

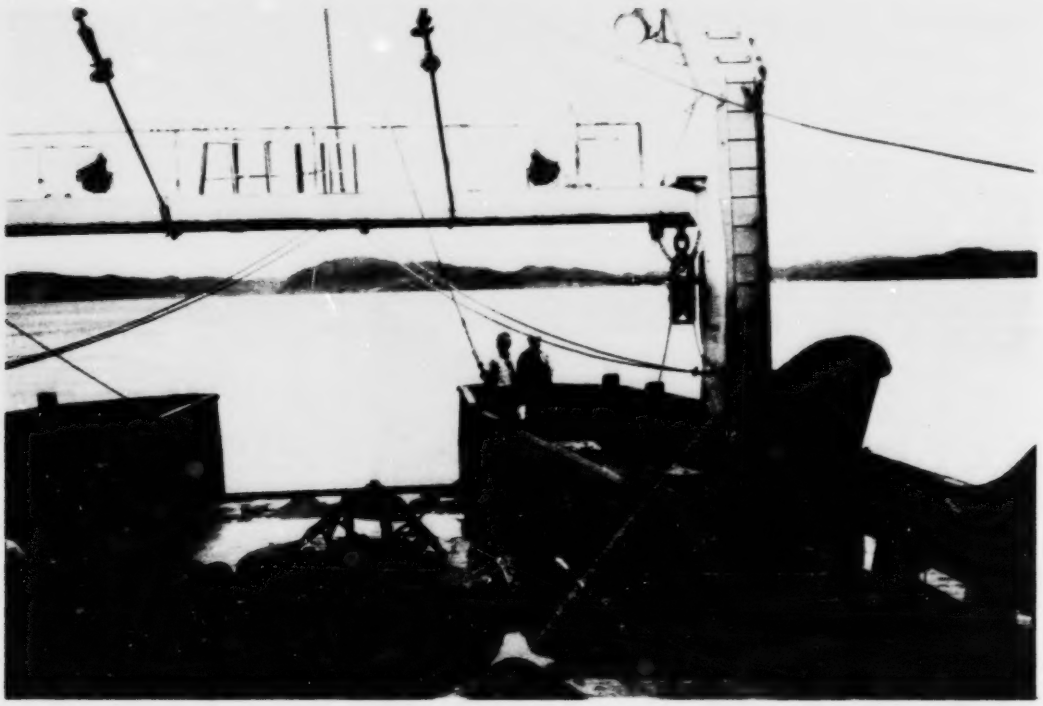
Vertical safety chain

Chaîne de sécurité verticale



Horizontal safety chain

Chaîne de sécurité horizontale



Position of deck-hands on the port quarter at time of accident

Position des matelots sur la hanche bâbord au moment de l'accident

"MUST 'N' TELL"

Accident on board resulting in death of a crew member, Glace Bay, N.S., January 7, 1988.

Summary

The 93 gross ton, all-steel, Canadian fishing vessel "MUST 'N' TELL" was built in 1982 and registered in Yarmouth, N.S. Her steering and operating position is at the starboard side of the wheel-house and her engine is operated by two levers situated to the right of the steering position. During the summer of 1987, new stabilizer booms and gear were fitted at mid-length on each side.

The visibility was good except in snow flurries when the "MUST 'N' TELL" departed Glace Bay, N.S. at 1330, January 7, 1988, with 6 persons on board, bound for the local fishing grounds. Once outside the harbour, away from its relative shelter, the vessel encountered 30-40 knot north-westerly winds and the freezing of the resulting shipped sprays in the -8°C temperature caused ice accretion. The skipper, fearing the consequences of adverse effect of such ice accretion, decided to return to the harbour.

One hour later the vessel was approaching her berth between two fishing vessels to secure port side to the wharf. The crew were at their docking stations with the skipper in the wheel-house steering the vessel and operating the engine, the mate and a deck-hand stationed forward and three deck-hands aft, all preparing for the berthing operation. With the mate indicating to the skipper the distances from other vessels and the wharf using hand signals through the port wheel-house window, the vessel approached the berth at an angle which was believed to be sufficient to clear the nearest moored vessel.

The stabilizers were in the stowed position (vertical) with the forward ends of the guys secured to the bow and the other ends to the ends of the booms, forming two loops overside stretching from each side of the bow to the top of each boom. The vessel had a port list of some 4° which caused the port guy to hang clear of the vessel's port side.

However, as the "MUST 'N' TELL" passed the port quarter of the berthed vessel "DON CADEGAN", slight contact was made between their hulls, and the port stabilizer guy became fouled on a projection at, and above, the stern of "DON CADEGAN". This caused the guy to draw upwards, slip up over the bow and trap the mate against the wheel-house bulkhead. The engine was immediately put to neutral then to full astern, however, about 1 minute passed before the mate could be freed. The deck-hand on the foredeck, sustained slight

injury to his right hand while attempting to free the mate.

The skipper, using the ship's R/T, called the local fish plant and requested an ambulance. An ambulance arrived on-scene within minutes and transported the mate to the local hospital where, following treatment, he died at 1915 the following day.

Findings

A crew member on the Canadian fishing vessel "MUST 'N' TELL" suffered a fatal accident while the vessel was approaching a berth at Glace Bay, N.S.

It would appear that the accident occurred due to the following contributing factors:

- a stabilizer-boom guy wire was not secured inboard but allowed to hang over the side contrary to the dictates of good seamanship;

- the vessel was listed which caused the guy wire to hang clear of her side; and

- the vessel passed close to the "DON CADEGAN" and the guy wire became caught on a part of the latter vessel's fitting thus tightening and trapping the mate against the wheel-house bulkhead.

Other Findings

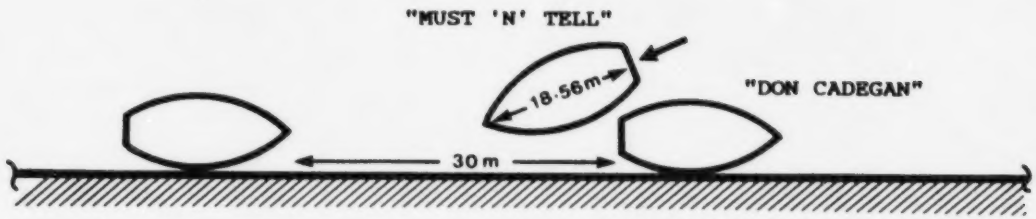
None of the crew perceived the developing dangerous situation.

Ice accretion on the decks would hamper the movements of shipboard personnel.

The accident was not reported by the vessel as required by the Shipping Casualties Reporting Regulations.

SKETCH INDICATES THE ANGLE OF APPROACH OF "MUST 'N' TELL" TO THE WHARF AND THE APPROXIMATE ASPECT OF COLLISION

CROQUIS INDIQUE L'ANGLE D'APPROCHE DU "MUST 'N' TELL" AU QUAI ET L'ASPECT APPROXIMATIF DE L'ABORDAGE

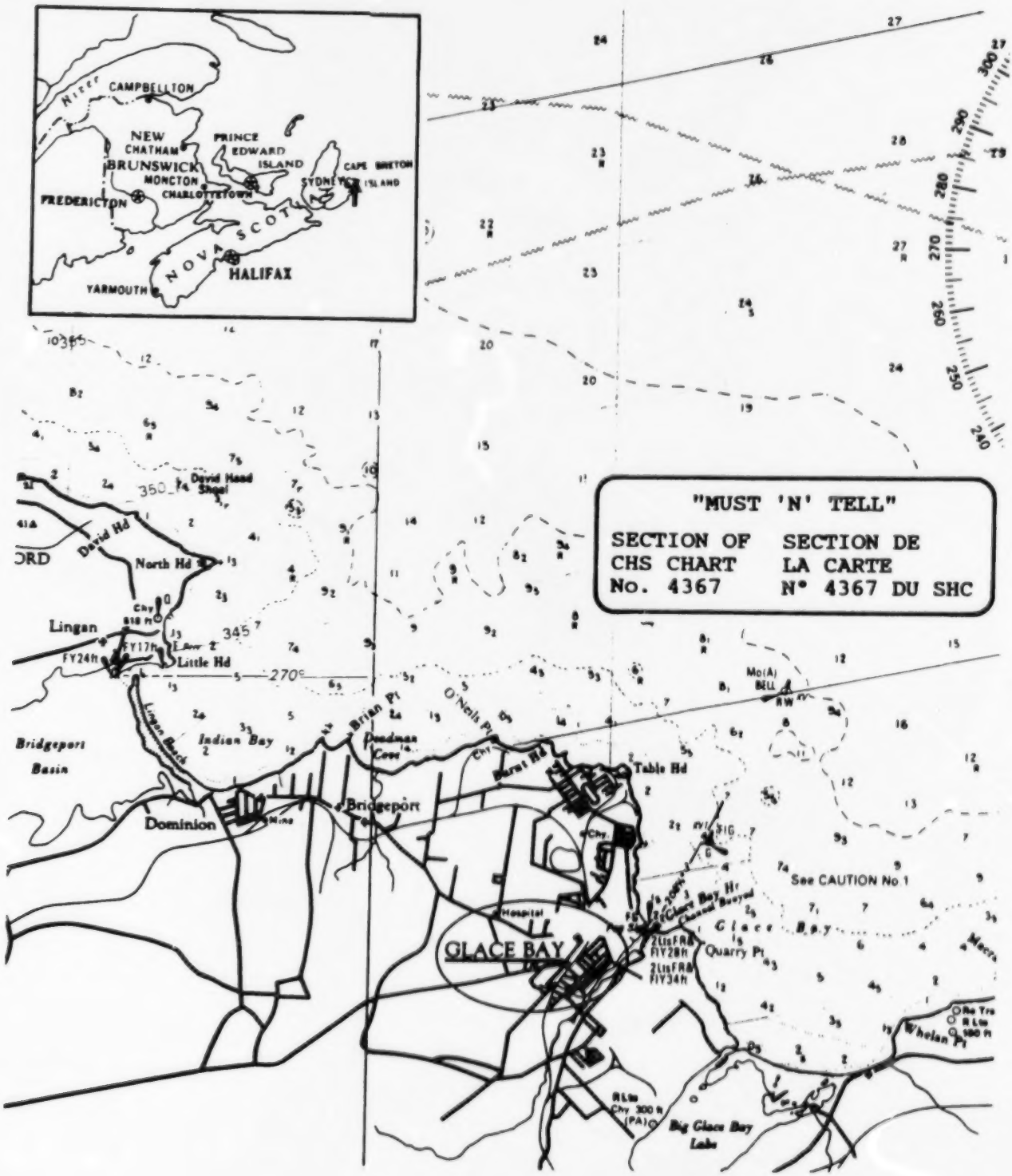


GOVERNMENT WHARF
GLACE BAY, NOVA SCOTIA

QUAI DU GOUVERNEMENT À
GLACE BAY, EN NOUVELLE-ÉCOSSE

DRAWING NOT TO SCALE

LE DESSIN N'EST PAS À L'ÉCHELLE


NEW BRUNSWICK
CAMPBELLTON
CHATHAM
MONCTON
FREDERICTON
PRINCE EDWARD ISLAND
CHARLOTTETOWN
SYDNEY
CAPE BRETON ISLAND
NOVA SCOTIA
HALIFAX
YARMOUTH
"MUST 'N' TELL"
SECTION OF CHS CHART No. 4367
SECTION DE LA CARTE N° 4367 DU SHC
David Head Shoal
David Hd
North Hd
Lingan
Little Hd
Bridgeport Basin
Indian Bay
Lingan Beach
Brian Pt
O'Neils Pt
Deadman Cove
Burnt Hd
Table Hd
Bridgeport
Dominion
See CAUTION No 1
Glace Bay Hr
GLACE BAY
Quarry Pt
Hospital
Big Glace Bay Lake
Whelan Pt

33

334

"ST. BERNADETTE"

Grounding and total loss off Lockeport, N.S., January 13, 1988

Summary

The 56 gross ton Canadian longliner "ST. BERNADETTE" was propelled by a 150 b.h.p. diesel engine driving a single fixed-pitch propeller. This wooden vessel was built in 1958 and was in possession of a valid Steamship Inspection Certificate. Included in her navigation equipment and in operation at the time of the casualty were a radar on one mile range and a VHF R/T set on channel 6 but none of the three echo sounders were in use. The vessel's radio station was licensed but the skipper was not in possession of an appropriate Radiotelephone Operator's Certificate as required by the Radio Act.

Following a catch of some 5675 kg of fish in 44 hours, the "ST. BERNADETTE" departed fishing grounds at 2100, January 12 bound for Lockeport, N.S. After a rest period of about 5 hours, the skipper took over the helm (there being no auto-pilot) and assumed the sole conduct of the vessel at 0200, January 13. The vessel was then some 20 miles from Lockeport making a NE'ly course by the magnetic compass at a speed of 10 knots.

Navigation consisted of comparing the Loran C co-ordinates with the co-ordinates on CHS Chart No. 4012 but neither courses nor positions were plotted on the chart nor any navigation record maintained. There are numerous dangers in the approaches to Lockeport Harbour necessitating frequent reference to CHS chart No. 4327 but the vessel did not carry that chart. The intention on reaching the approaches to the Lockeport Harbour was to proceed from buoy to buoy and seeking guidance by visually sighting the light from Gulf Rock lighthouse and the lit buoys.

The deck-hand, who had been awakened earlier, took over the steering at 0340 leaving the skipper to navigate the vessel. This was the skipper's second trip into Lockeport. At this time, the Gull Rock light was abeam to starboard and, without first ascertaining this crucial alter course position, the course of the "ST. BERNADETTE" was altered to Northerly.

A few minutes prior to the grounding, the radar, which had not been tuned for optimum performance, was used for the first time. Despite a number of good radar targets that should have appeared on the P.P.I., only one solitary target was observed ahead and slightly to port, distant about 0.5 mile. The target, which was in fact the radar image of the rocks forming the chain ledge, was misinterpreted to be the lit buoy KK62 although the red flashing light of the buoy was not sighted visually. At 0345, with her engine at full ahead the "ST. BERNADETTE" grounded on the Chain Ledge. The impact awoke the two deck-hands who immediately proceeded to the wheel-house. Inspection of the

vessel revealed that the hull was severely breached and with the tide falling, preparations were made and the vessel abandoned into a liferaft at 0400. Meanwhile, the skipper informed a local fishing vessel of the situation on VHF R/T channel 6 and the crew was rescued at 0522.

The vessel was subsequently declared a total loss with an estimated value of $400,000. The casualty resulted in no injuries and pollution from the vessel's diesel fuel was minimal.

Findings

The Canadian fishing vessel "ST. BERNADETTE" grounded on [illegible] Ledge and became a total loss as a result of a navigational error while navigating the approaches to Lockeport Harbour, N.S., during darkness but with good visibility.

It would appear that the following factors contributed to the grounding:

- the initial position of the vessel was not correctly ascertained;
- the appropriate scale chart was not on board and available for use;
- the passage through the approaches was insufficiently planned;
- navigation of the approaches initially relied solely upon local knowledge and the locating of buoys;
- when uncertainty arose as to the vessel's position, reliance was placed on a radar which had not been tuned to optimum performance;
- the speed of the vessel was not reduced or the vessel stopped to allow more time to assess the situation; and
- those having conduct of the vessel were fatigued.

Other Findings

The echo (depth) sounders were not utilized.

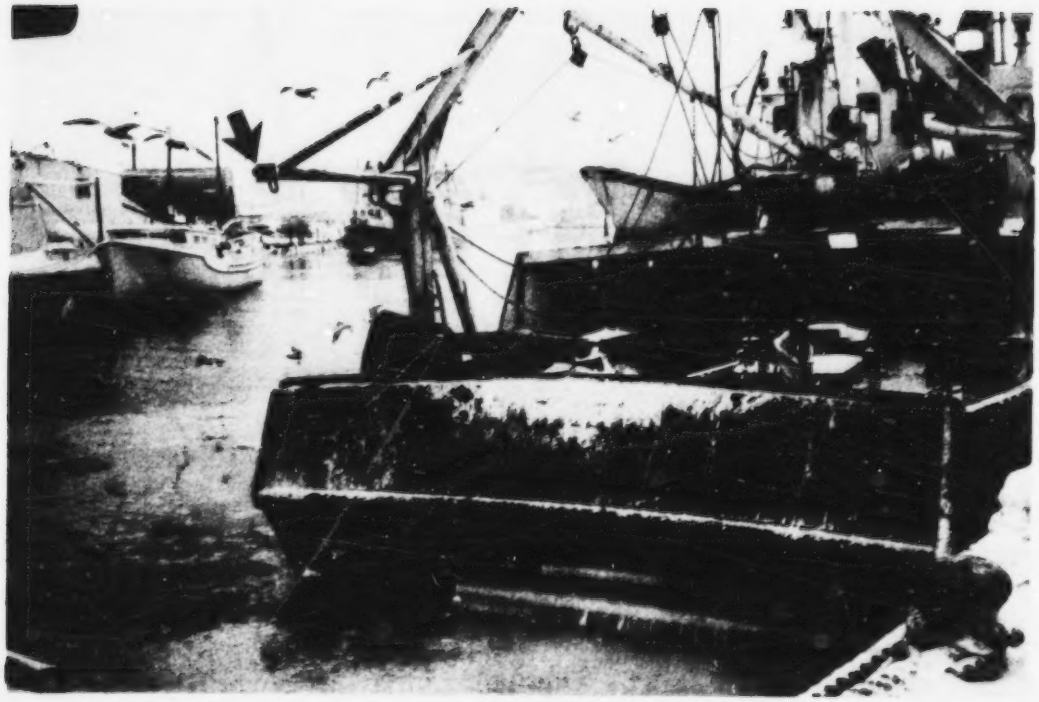
The radiotelephone operator did not have the required radiotelephone operator's licence.

"MUST 'N' TELL" at her berth,
Glace Bay, January 9, 1988.

Note: The vessel is in the same condition as on arrival. The port stabilizer chain indicates the degree of list; the port guy wire has been pulled in-board over the handrail.

Le "MUST 'N' TELL" au poste d'amarrage à Glace Bay, le 9 janvier 1988.

Nota : Le navire est dans le même état qu'à l'arrivée. La chaîne du stabilisateur bâbord indique le degré de la gîte; le câble de retenue bâbord a été tiré vers l'intérieur par-dessus la main courante.



Stern of "DON CADEGAN". Arrow indicates projection on which the wire caught.

La poupe du "DON CADEGAN". La flèche indique la saillie sur laquelle le câble s'est accroché.

"BIENVENUE"

Drowning of a crew member at North Sydney, N.S., February 2, 1988.

Summary

The 127 gross ton, Gaspé-based fishing vessel "BIENVENUE" was secured starboard side to a pontoon which in turn was secured to the west side of the Public Wharf at North Sydney, N.S. Although adequate wharf space was available, the master preferred this berthing arrangement as it provided easy access to the pontoon at all stages of the tide.

On February 1, 1988 all 4 crew members proceeded ashore and spent the time together socialising with other fishermen in several bars in town and had consumed some alcohol. The visibility was good on a cloudy night and the rain made conditions slippery underfoot. Mr. Michel Giasson was wearing normal clothing for the season and cowboy boots; reportedly, the latter had in the past been responsible for a few falls in slippery conditions. After informing the master that he was returning to the vessel, the victim returned to the wharf in a taxi at about 0215. The harbour was quiet and deserted, the wharf was well lit. There were large truck tires fixed along the wharf at 3-m intervals serving as fenders thus leaving a space of some 0.7 m to 0.8 m between the wharf and the pontoon. Low tide was at 0215 and the pontoon was about 1.5 m below the surface of the wharf. There was a ladder incorporated in the face of the wharf leading down to the water. The remainder of the crew arrived aboard the vessel between 0300 and 0330 but when they did not see the victim, they thought that the victim had decided to stay ashore as he had done in the past.

The following morning when the crew turned to, the victim had not reported for work. At 0930 one of the crew happened to look between the pontoon and the wharf and saw the victim, apparently lifeless, in a near-verticle position in the water with his unfastened feather-filled winter jacket floating around him. The police were notified, the victim retrieved and taken to hospital where he was declared dead. An autopsy revealed a high level of blood-alcohol concentration in the victim's blood and the cause was attributed to drowning.

Investigation revealed that apparently while the victim was attempting to descend from the wharf to the pontoon, he fell into the icy cold water of the harbour. The 0°C water temperature in conjunction with the alcohol intake drastically reduced the victim's survival time and being intoxicated, he as unable to react to help himself.

Findings

In the early morning hours of February 2, 1988, in darkness but good visibility and in a well lit section of the wharf, the fisherman Michel Giasson fell into the water and drowned when he was attempting to descend from the wharf onto the pontoon in order to proceed aboard the "BIENVENUE" secured alongside the pontoon.

It would appear that the following factors contributed to this accident:

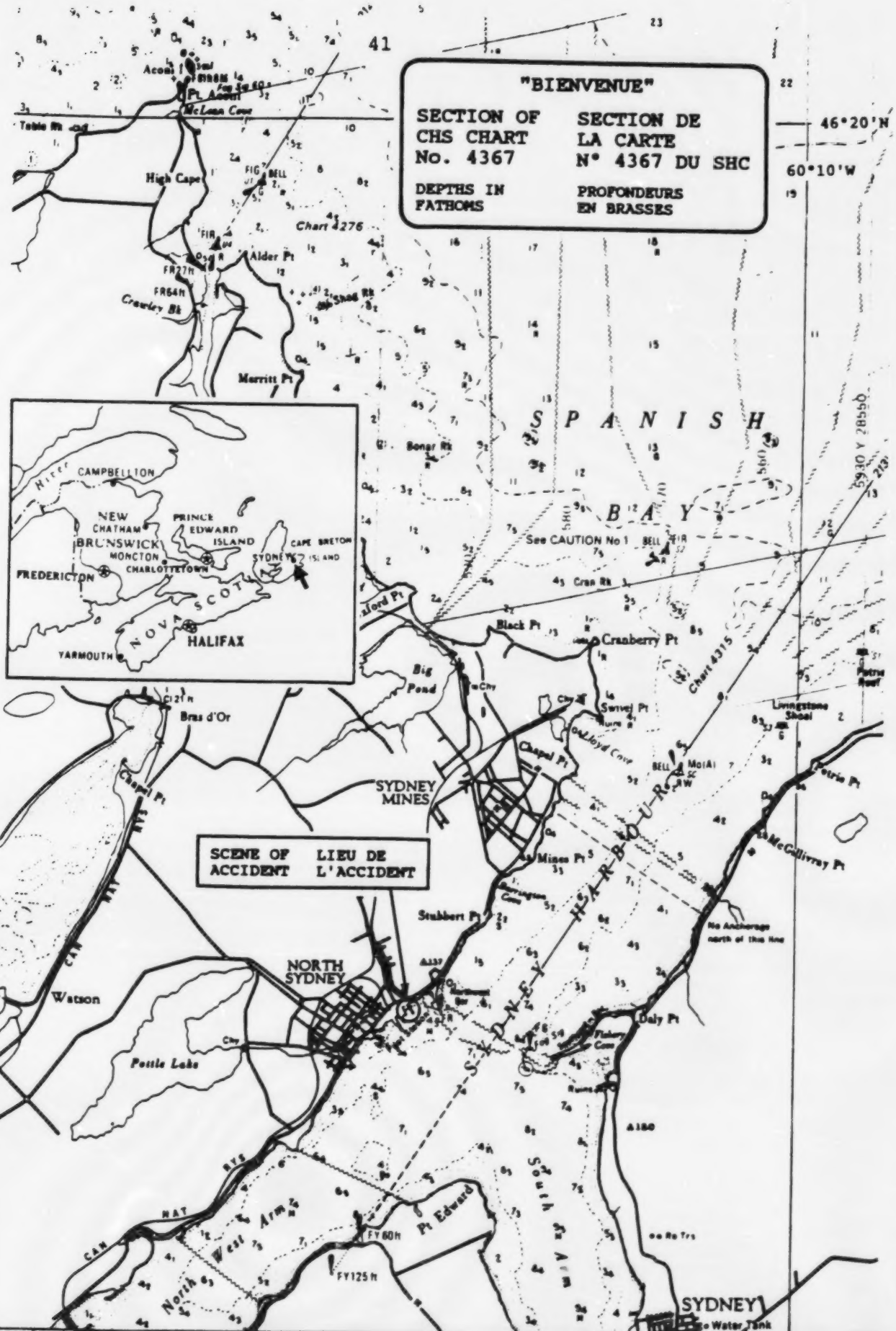
- the victim was under the influence of alcohol;
- it was low tide at the time of the accident and the pontoon was about 1.5 m below the wharf;
- the common but dangerous practice to utilize the rubber fenders as a means of access to the pontoon, rather than the ladder set into the wall;
- the boots were not suitable in the wet and slippery conditions; and
- the victim lost his balance when he stepped on a fender before jumping onto the pontoon or when he descended the ladder to get to the pontoon he fell into the water.

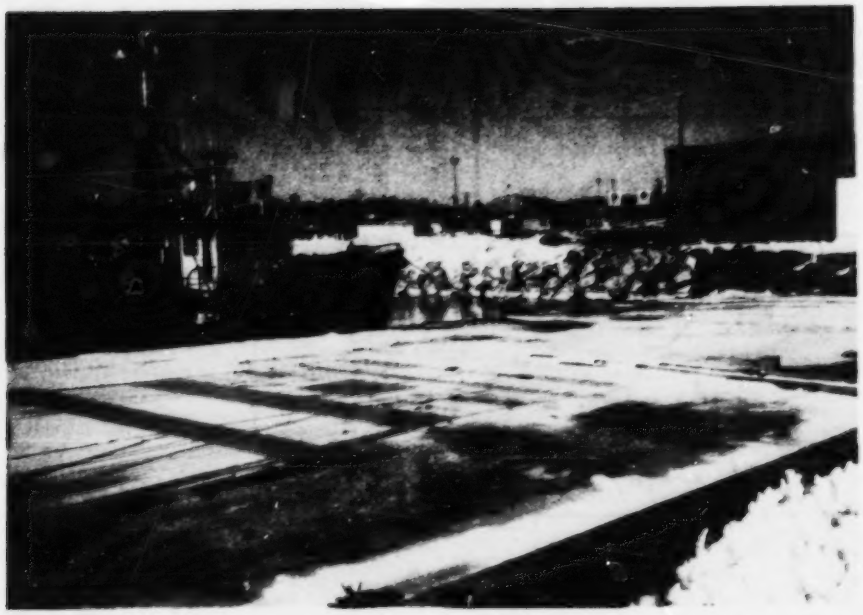
Following his fall, Mr. Michel Giasson lost his life due to the following contributory factors:

- being intoxicated, the victim was unable to react to save himself from drowning;
- the cold seawater temperature of 0°C drastically limited the victim's survival time;
- the consumption of alcohol accelerated the rate of loss of body-heat further reducing the already limited survival time; and
- the accident occurred when he was alone and there was nobody in the vicinity who could assist him.

Other Findings

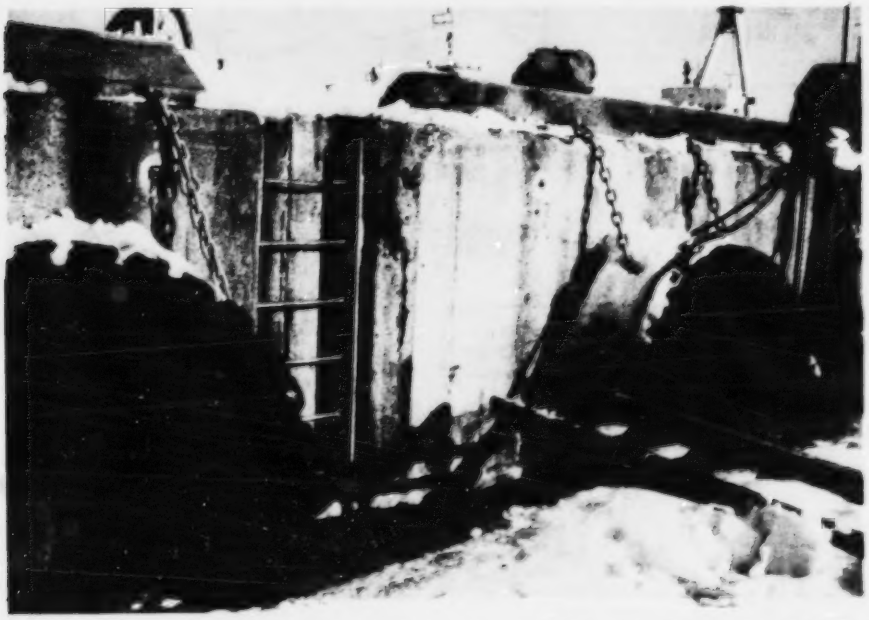
Recovery of the floating body was partially due to the flotation qualities of the feather-lined jacket with a man-made fibre shell.


"BIENVENUE"
SECTION OF CHS CHART No. 4367
SECTION DE LA CARTE N° 4367 DU SHC
DEPTHS IN FATHOMS
PROFONDEURS EN BRASSES
46°20'N
60°10'W
SCENE OF ACCIDENT
LIEU DE L'ACCIDENT
SPANISH BAY
SYDNEY HARBOUR
SYDNEY MINES
NORTH SYDNEY
SYDNEY
Chart 4276
Chart 4315
See CAUTION No 1
CAMPBELLTON
NEW BRUNSWICK
PRINCE EDWARD ISLAND
CAPE BRETON ISLAND
FREDERICTON
MONCTON
CHARLOTTETOWN
SYDNEY
NOVA SCOTIA
HALIFAX
YARMOUTH
Bras d'Or
Chapel Pt
Big Pond
Black Pt
Cranberry Pt
Swivel Pt
Livingstone Shoal
Petrie Pt
McGillivray Pt
Mines Pt
Stubbert Pt
No Anchorage north of this line
Daly Pt
Watson
Pottle Lake
Pt Edward
South Arm
West Arm
North Arm
Alder Pt
Merritt Pt
Bonar Rk
Crow Rk
Shad Rk
Crawley Bk
High Cape
Table Rk
McLean Cove
Pt Amour
Acoal I
Lloyd Cove
Fisherys Cove
Livingstone Cove
Petrie Reef
Water Tank



The "BIENVENUE" was tied up starboard side to the pontoon - in the same position as showed by the above vessel.

Le "BIENVENUE" était amarré à tribord au ponton dans la même position que le navire ci-haut.



At the time of the accident, 0215 on Feb. 2 1988, it was low tide at North Sidney. The pontoon was about 1.50 m below the surface of the wharf and 0.80 m away from the ladder. The ladder was incorporated in the wall of the wharf.

Au moment de l'accident, le 2 février 1988, la marée était basse à 02h15 à North Sidney. Le ponton était à 1,50 m environ en-dessous de la surface du quai, et à une distance de 0,80 m de l'échelle. Celle-ci est encastrée à la parois du quai.

"FIRST CHOICE"

Explosion, fire and subsequent sinking with injuries to two persons while alongside Celtic Shipyards, Vancouver, B.C., February 10, 1988.

Summary

The fibreglass-sheathed, wooden-hulled, 7 gross ton, Canadian fishing vessel "FIRST CHOICE" was built in 1962; her cabin, located forward of amidships, housed the accommodation, conning station, galley and navigation appliances. Access to the engine-room was located beneath the deck and was provided from inside the cabin. Abaft her cabin was a fish hold and a general work area. Following the closure of the salmon fishery in December 1987, the vessel was secured alongside the Celtic Shipyards Wharf in Vancouver, B.C.

Accompanied by his friend, the owner/operator boarded the vessel at about 1410, February 10, 1988. Upon realizing that the ignition keys had been misplaced, the friend advised the operator that he could safely hot-wire the ignition and get the engine started. The ignition was then hot-wired and the engine rolled over but did not start. In attempting to start the engine, the carburetor could have become flooded and the gasoline vapors emitted would have, in the cold temperature, settled on the bottom. A spare battery was then brought aboard and attempts were made to boost the drained battery.

In such an attempt, surges of power could, in addition to generating an amount of hydrogen within the battery, also result in heavy sparking at the terminals. During the second attempt the sparks so generated upon coming in contact with gasoline vapours in the vessel's bottom caused a small explosion and the resultant fire spread quickly throughout the bilge and up the sides of the vessel. The fire subsided sufficiently to permit the two men to escape but not before they had received first, second and third degree burns. While attempting to jump onto the dock, the friend, whose clothing had caught fire, fell into the water and the owner who had landed on the dock assisted his friend out of the water. They then alerted shipyard personnel who in turn summoned the ambulances and fire trucks. Shortly thereafter, the fuel tank exploded alerting the workboat/fireboat near by. The fire was eventually brought under control but the vessel sank at her berth owing to the amount of water collected in her hull. Meanwhile the 2 men were rendered first aid and were taken to hospital upon arrival of the ambulances.

The vessel, valued at $26,000 was subsequently salvaged and declared a constructive total loss.

Findings

On the afternoon of February 10, 1988, at approximately 1415, while secured at the floating dock at the Celtic Shipyards in Vancouver, B.C., the fishing vessel "FIRST CHOICE" suffered an explosion and fire when an attempt was being made to start her gasoline engine. The owner/operator and guest suffered severe burns.

It would appear that the explosion and fire occurred because:

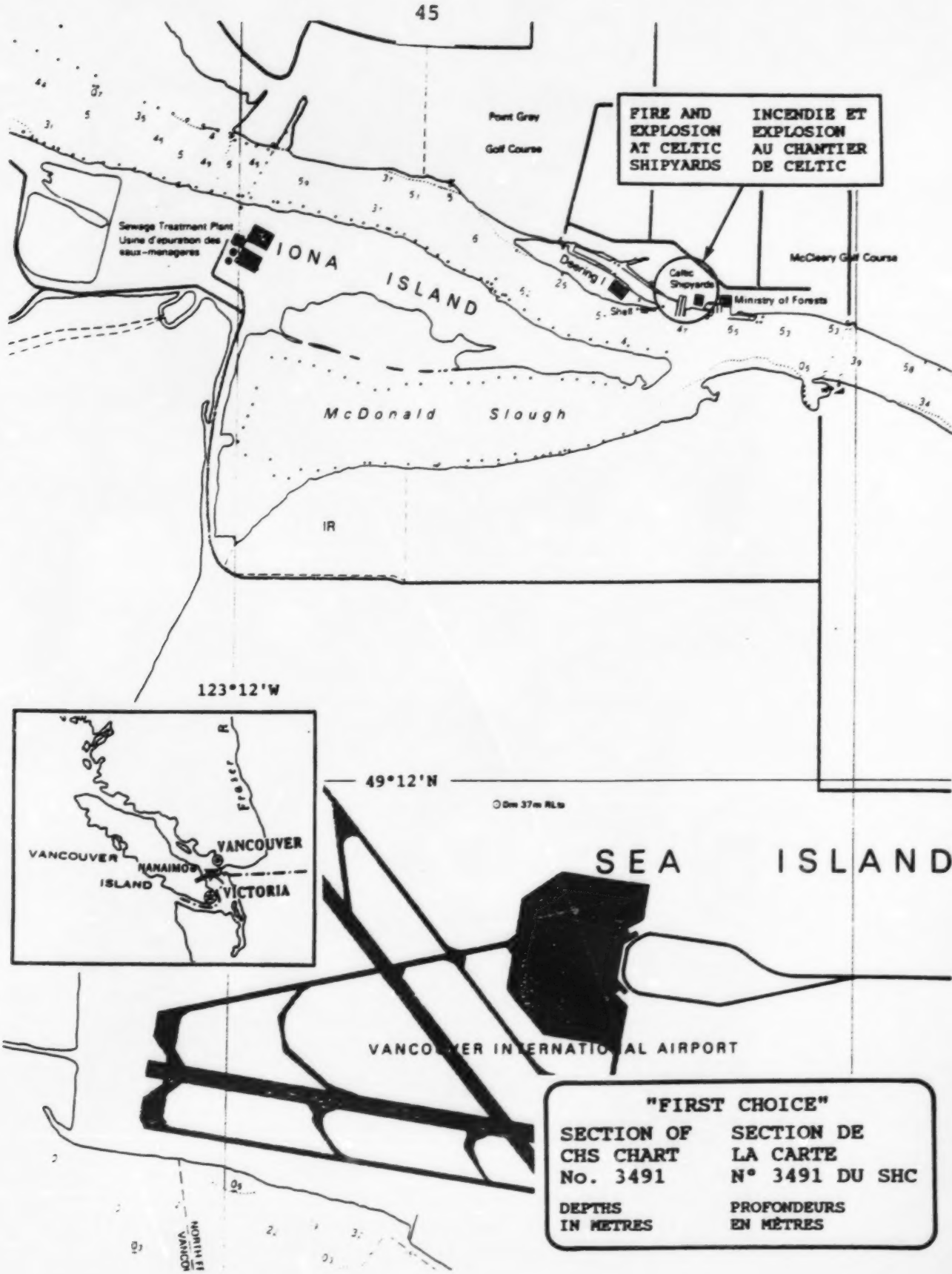
- the flooding of the carburetor resulted in accumulation of gasoline vapours in the vessel's bilge;
- the hot-wiring of the ignition resulted in heavy sparks when the battery cables were being connected, igniting the gasoline vapours;
- the fire caused the nearly empty fuel tank on the starboard side of the engine-room to explode.

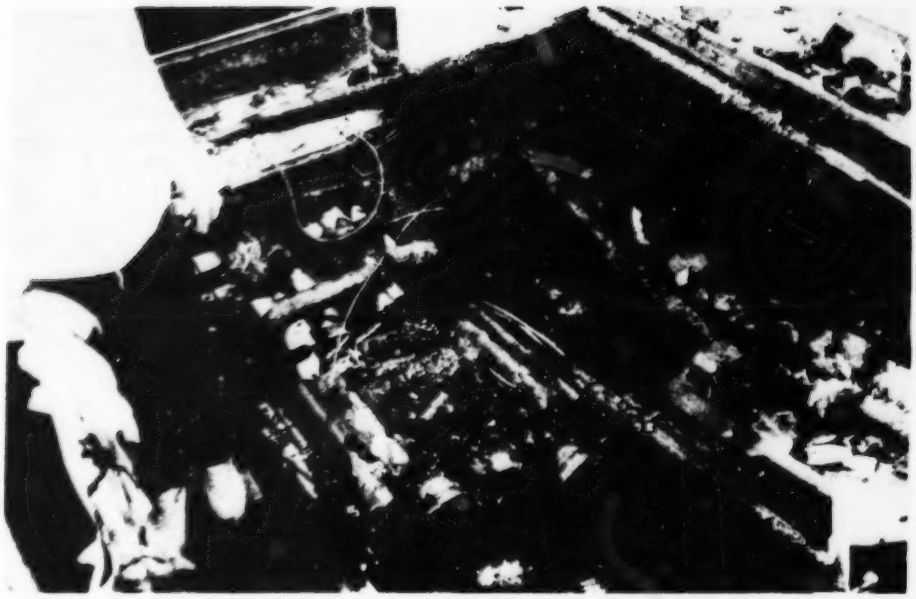
Other Findings

No odour of gasoline was detected by either party prior to the explosion and fire.

The "FIRST CHOICE" was not equipped with a gas vapour detector or a bilge blower nor was she required to by regulations.

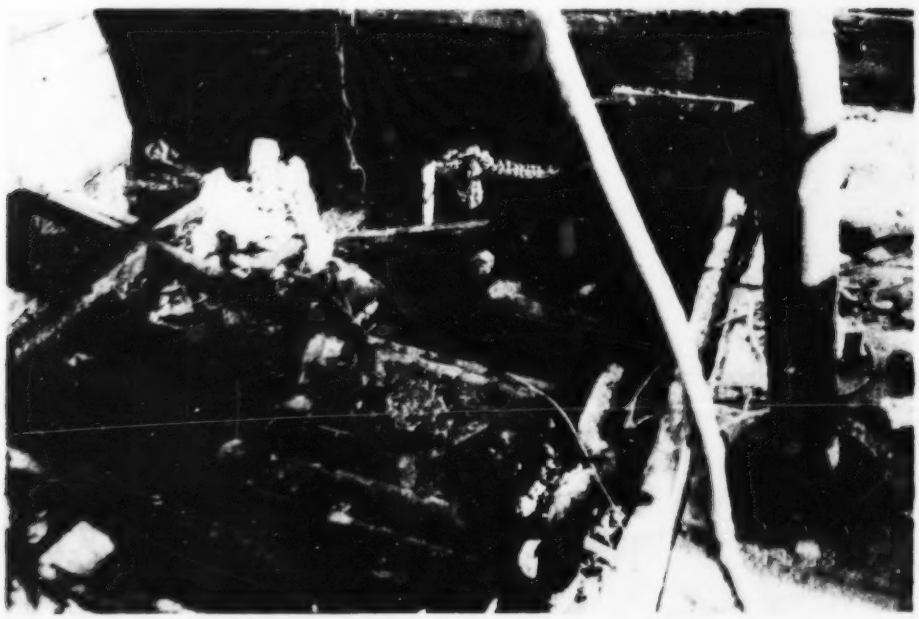
The close proximity of a workboat/fireboat, and the crew's immediate response to the task of extinguishing the fire, prevented the fire from spreading to other nearby vessels.


FIRE AND EXPLOSION AT CELTIC SHIPYARDS
INCENDIE ET EXPLOSION AU CHANTIER DE CELTIC
Point Grey
Golf Course
Sewage Treatment Plant
Usine d'épuration des eaux-ménagères
IONA ISLAND
Celtic Shipyards
Ministry of Forests
McCleery Golf Course
McDonald Slough
IR
123°12'W
49°12'N
FRASER R.
VANCOUVER
VANCOUVER ISLAND
NANAIMO
VICTORIA
SEA ISLAND
VANCOUVER INTERNATIONAL AIRPORT
"FIRST CHOICE"
SECTION OF CHS CHART No. 3491
SECTION DE LA CARTE N° 3491 DU SHC
DEPTHS IN METRES
PROFONDEURS EN MÈTRES



Damaged engine compartment with starting batteries.

Compartiment de la machine endommagé avec et les batteries servant au démarrage sont endommagés.



Engine compartment with ruptured fuel tank, starboard side.

Compartiment de la machine côté tribord, avec la soute à mazout tribord rompue.

"LADY STEPHANIE"

Ingress of water and subsequent sinking off Cape St. Marys, N.S., February 27, 1988.

Summary

The 35 gross ton Canadian dragger "LADY STEPHANIE" was a small fishing vessel with her accommodation and wheel-house forward of amidships, aft of which was a fish hold and a lazaret. Her engine compartment was located beneath the wheel-house. The vessel was in possession of a Steamship Inspection Certificate issued following a quadrennial inspection. The vessel laden with 17,000 kg of fish, struck a submerged object on April 5, 1987 and subsequently when she was being towed into port, she struck some rocks resulting in substantial bottom damage. The vessel was repaired but the Ship Safety Branch of the Canadian Coast Guard was not notified and consequently no inspection was carried out, thus rendering the Steamship Inspection Certificate invalid.

After a catch of some 15,000 kg of ground fish, the "LADY STEPHANIE" departed Brown's Bank, N.S. at about 2000, February 26, 1988 bound for Westport, N.S. At about 0700, February 27, the engine slowed of its own accord and, upon investigation, water was observed to be swirling in the engine-room as it ingressed at a considerable rate from an unknown source. A rotary-type pump driven by the main engine was immediately activated, and all hands were alerted. When the skipper returned to the wheel-house, a second battery-operated rotary-type pump was activated. The two deck-hands were directed to and launched an inflatable liferaft. The engine control was placed in the neutral position, idling at 1200 r.p.m., thereby continuing to drive a pump.

At 0711, CGRS Yarmouth intercepted a call from the "LADY STEPHANIE" to CCGS "WESTPORT" and were informed of the situation thus initiating a SAR operation. At 0720, the crew abandoned the vessel by liferaft, without wearing life-jackets, and were subsequently rescued by F/V "SCOTT & DAWN" and transported to Port Maitland, N.S., arriving there at about 1430, February 27.

The "LADY STEPHANIE" capsized and sank at approximately 0800, in position 44°03'48"N, 66°19'59"W and, as her star-board underside became exposed, observers from two other vessels noted a hole consistent with a short length of planking having broken free.

There were no injuries, and no pollution was observed although there was diesel oil in the fuel tanks of the "LADY STEPHANIE". The vessel had a reported replacement value of $300,000.

The weather throughout the morning period had been favourable and is not considered a factor in this casualty.

Findings

The Canadian fishing vessel "LADY STEPHANIE" sank under moderate weather conditions due to an apparent structural failure of the hull.

It would appear that the following were contributing factors:

- a section of planking was reported missing from the starboard underside of the hull: the reason for its failure is not known; and

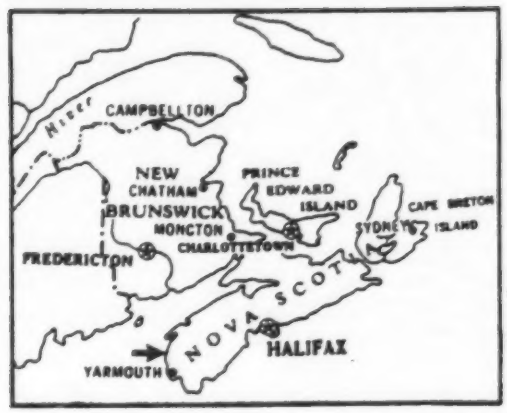
- the soundness of the hull structure following extensive previous damage sustained by the vessel could not be ascertained as neither the owner nor the operator of the vessel notified Ship Safety in accordance with section 358 of the Canada Shipping Act and consequently, the vessel was not inspected by Ship Safety as required by the Small Fishing Vessel Inspection Regulations.

Other Findings

There is frequent misuse of VHF channel 16 by other vessels which could hamper a declared distress situation.

The local practice of not providing a full Loran C read-out when advising a vessel's position could lead to ambiguities in the vessel's reported position which could have serious consequences in distress situations.

Crew members of certain vessels involved were not in possession of Radiotelephone Operator's Restricted Certificate (Maritime) as required by the General Radio Regulations.



"LADY STEPHANIE"
ABANDONED
AND SANK
FEBRUARY 27, 1988

"LADY STEPHANIE"
ABANDONNÉ
ET COULÉ
LE 27 FÉVRIER 1988

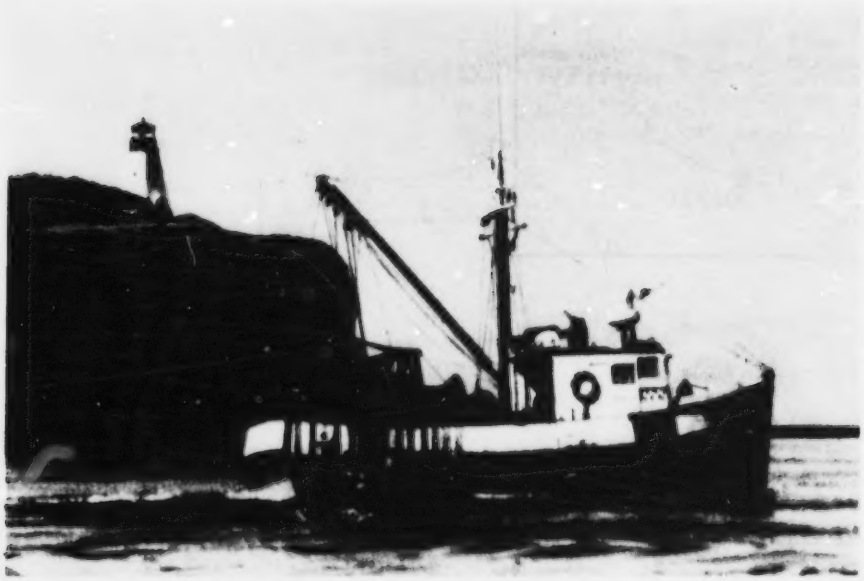
"LADY STEPHANIE"

SECTION OF CHS CHART No. 4003

SECTION DE LA CARTE N° 4003 DU SHC

DEPTHS IN FATHOMS

PROFONDEURS EN BRASSES



"LADY STEPHANIE"

Sister vessel "MARION & MICHELLE".

Navire jumeau "MARION & MICHELLE".

"MIDNIGHT SUN"

Grounding on Repulse Point, Denman Island, B.C., March 3, 1988.

Summary

The 110 gross ton wooden Canadian seiner was being utilized for herring and salmon fisheries off the B.C. coast. The vessel was reportedly well maintained and was in possession of a valid Steamship Inspection Certificate.

In anticipation of the opening of the herring season, the "MIDNIGHT SUN" sailed into Baynes Sound with a crew of 6 including the master to locate a school of herring. The season opened at 1315 and following a good day's catch, by 1930 the vessel was readied for her return to Steveston, B.C. Whilst the crew were securing the vessel for sea, the master navigated the vessel through Baynes Sound at the same time maintained a look-out and steered the vessel when necessary. Navigation was carried out solely by radar distances off known landmarks and local knowledge using an out-dated CHS chart No. 3590 wherein the latest floating aids were not charted. The magnetic compass was not effectively used and the vessel was proceeding at her full service speed of 9 knots. At about 2030 the "MIDNIGHT SUN", proceeding on an approximate heading of 142° (T), passed a buoy in position 49°28.8'N 124°44.8'W (later identified on CHS chart No. 3527 as being red light buoy "P42").

The auto-pilot was switched to hand steering and the vessel's course altered. Observing an echo dead ahead on the PPI which should have been that of buoy "P40", the master wrongly assumed it to be that of the black spar buoy "P41" and adjusted course to about 082° (T) to pass the echo to starboard. The Chrome Island ranges were not considered. At 2038, the deck-hand noticed that the echo sounder was indicating shallow water and advised the master but before any action could be taken, the vessel grounded on Repulse Point in position 49°28'N 124°44'W and later became stranded due to the ebbing tide. Inspection of the bilges revealed that the vessel's watertight integrity had not been breached. The vessel was refloated some 6 hours later on a rising tide and towed to Deep Bay where following transfer of cargo temporary repairs were carried out and the vessel pressed into service.

Following completion of the herring season, permanent repairs were carried out at an estimated cost of $50,000. There was no pollution or injuries as a result of the casualty.

Findings

On March 3, 1988, the fishing vessel "MIDNIGHT SUN" grounded on Repulse Point, Denman Island, B.C. due to an error in navigation while transiting Baynes Sound at her full service speed, in darkness, with good visibility, calm seas and her master at the helm.

It would appear that the following factors contributed to the grounding:

- the vessel was being navigated solely by radar distances off known landmarks and by local knowledge; the buoy "P40" being wrongly identified as buoy "P41";

- the bridge was manned by a single person performing navigational duties in addition to those of a look-out and a helmsman;

- a proper look-out, within the meaning of Rule 5 of the Collision Regulations, was not maintained;

- the magnetic compass was not used in accordance with the Recommended Code of Nautical Procedures and Practices, 1985, Part I, 7(a);

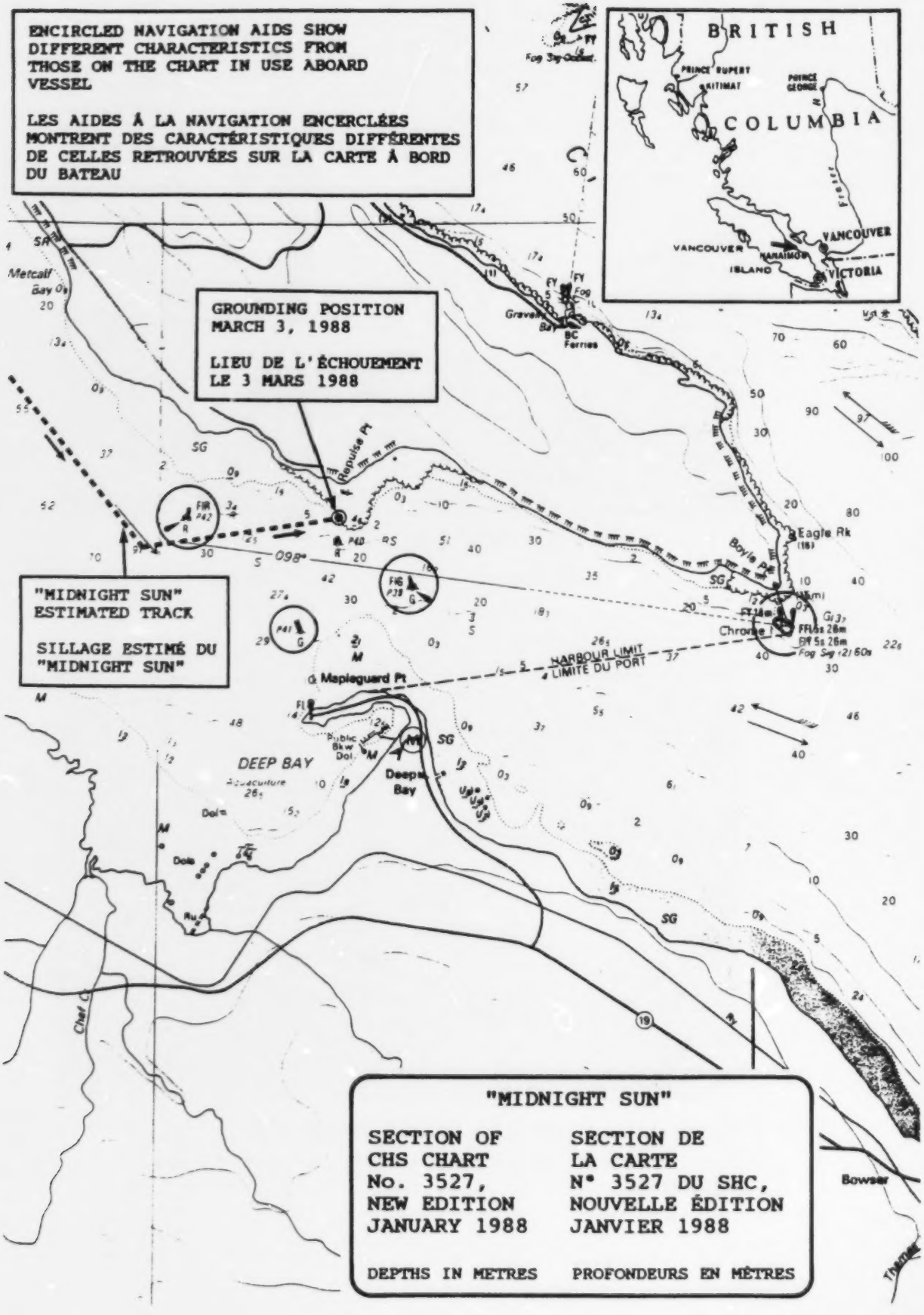
- information obtained from radar was not adequately used in accordance with Part II section 15, of the Recommended Code of Nautical Procedures and Practices, 1985;

- the intended voyage was not planned in advance in accordance with the Recommended Code of Nautical Procedures and Practices, 1985, Part I, 6(a);

- a proper record was not kept of the movements and activities with respect to navigation of the ship: Part I, section 8 (c) of the Recommended Code of Nautical Procedures and Practices, 1985;

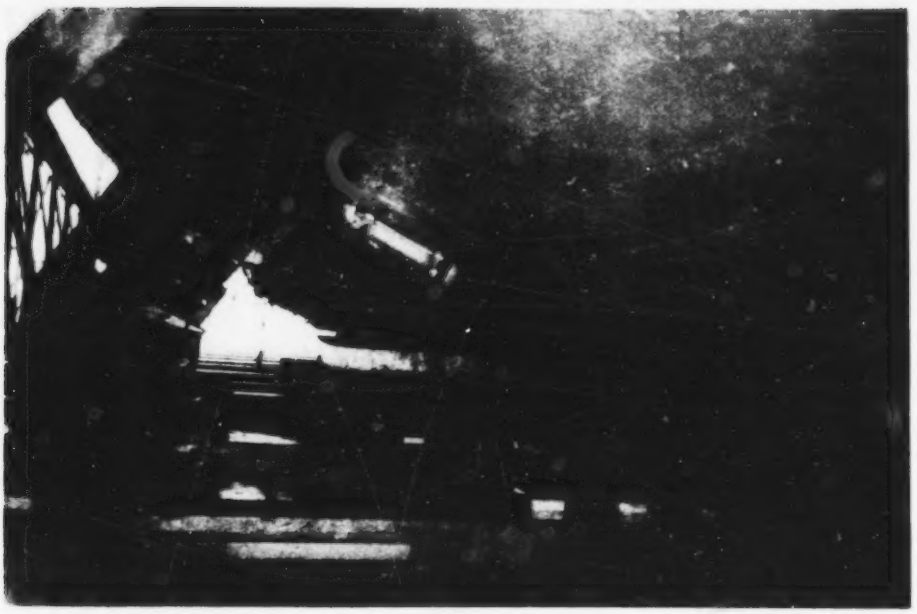
- contrary to the requirements of the Charts and Publications Regulations, the vessel used an out-dated navigation chart on which all current floating aids were not charted; and

- fixed lighted navigation aids were not adequately used nor were floating aids correctly identified.


ENCIRCLED NAVIGATION AIDS SHOW DIFFERENT CHARACTERISTICS FROM THOSE ON THE CHART IN USE ABOARD VESSEL
LES AIDES À LA NAVIGATION ENCERCLÉES MONTRENT DES CARACTÉRISTIQUES DIFFÉRENTES DE CELLES RETROUVÉES SUR LA CARTE À BORD DU BATEAU
BRITISH COLUMBIA
PRINCE RUPERT
KITIMAT
PRINCE GEORGE
Fraser
VANCOUVER
VANCOUVER ISLAND
NANAIMO
VICTORIA
GROUNDING POSITION MARCH 3, 1988
LIEU DE L'ÉCHOUEMENT LE 3 MARS 1988
"MIDNIGHT SUN" ESTIMATED TRACK
SILLAGE ESTIMÉ DU "MIDNIGHT SUN"
Metcalf Bay
Gravel Bay
BC Ferries
Repulse Pt
Eagle Rk
Boyle Pt
Chrome I
HARBOUR LIMIT
LIMITE DU PORT
Mapleguard Pt
DEEP BAY
Aquaculture
Deep Bay
Dolta
Chef Cr
Bowser
"MIDNIGHT SUN"
SECTION OF CHS CHART No. 3527, NEW EDITION JANUARY 1988
SECTION DE LA CARTE N° 3527 DU SHC, NOUVELLE ÉDITION JANVIER 1988
DEPTHS IN METRES
PROFONDEURS EN MÈTRES

"MIDNIGHT SUN" in dry dock.

"MIDNIGHT SUN" en cale sèche.



Underside of vessel showing damaged keel cooler.

Can inférieur du bateau montre le tube de quille endommagé.

Glossary

CCG	Canadian Coast Guard
CCGC	Canadian Coast Guard Cutter
CCGS	Canadian Coast Guard Ship
CGRS	Coast Guard Radio Station
CMRA	Canadian Marine Rescue Auxiliary
ETA	Estimated time of arrival
Fish Packers	Fishing vessels being used only for transportation of fish
FPV	Fisheries Patrol Vessel
Free surface effect	Whenever there is a surface of liquid which is free to move, there is a loss of effective GM due to a virtual rise of the vessel's centre of gravity and the loss of stability caused by the movement of liquid in partially filled compartments when the vessel rolls. This movement may involve a large shift of weight.
Freeboard	The distance between the waterline and the upper edge of the weather deck.
FV	Fishing Vessel
GM	The distance between the transverse metacentre and the vertical centre of gravity, and is an indication of a vessel's ability to right herself when heeled over.
M	Magnetic
Mayday	Distress signal
MEDEVAC	The urgent evacuation of a person from a vessel for medical reasons
MRSC	Marine Rescue Sub-Centre

Port of refuge	A reasonably safe place of retreat from winds or storms
r.p.m.	Revolutions per minute
RCC	Rescue Co-ordination Centre
SAR	Search and Rescue
SFV	Small fishing vessel
SIC	Steamship Inspection Certificate
SSB	Single sideband radio
T	True
Trim	The difference between the draught forward and aft
VHF	Very high frequency radio